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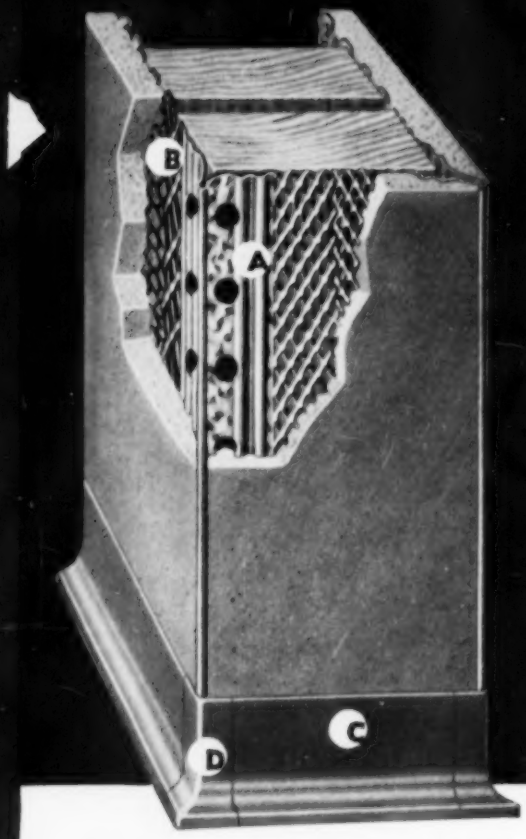

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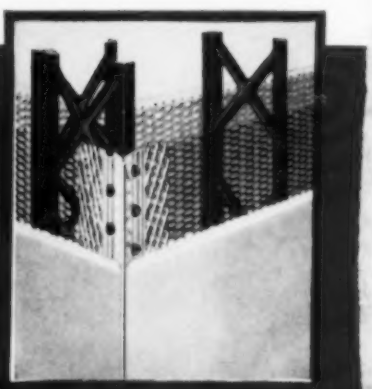

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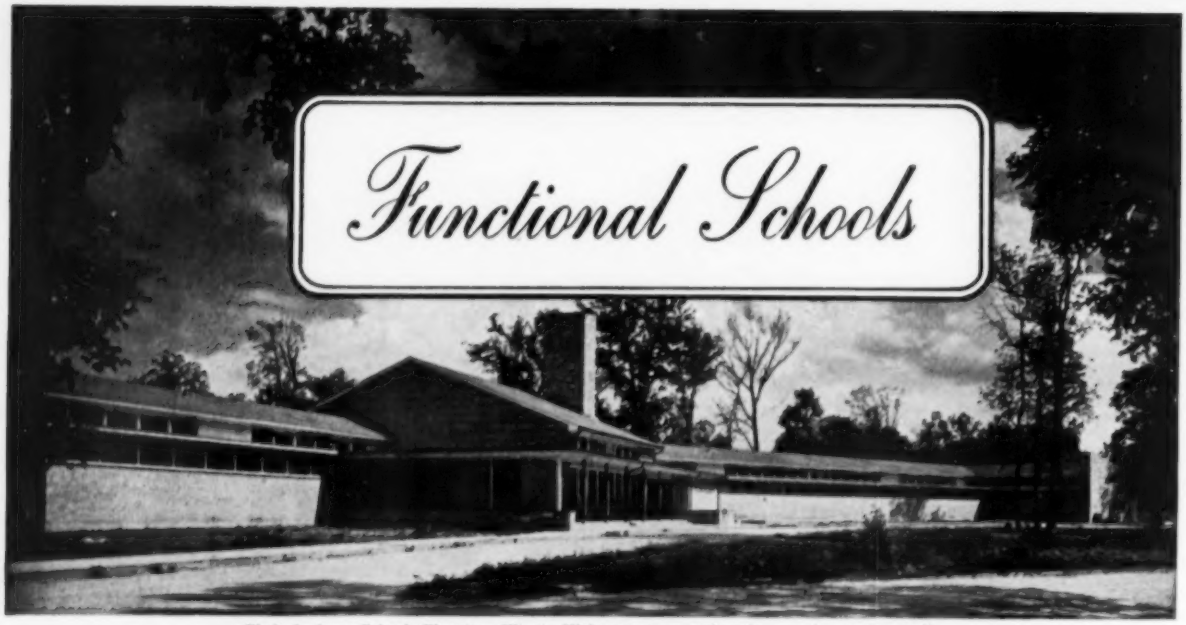

Clyde L. Lyon School, Glenview, Illinois. Walvector in special enclosures along entire walls of windows assures comfort regardless of outside temperatures. Photo by Hedrich-Blessing.

Perkins and Will, nationally known Architects and Engineers, specify "perimeter" heating for comfort and economy . . . .

Many schools designed by this Chicago firm feature large glass areas, for beauty, better vision and more cheerful classrooms. To off-set resulting heating problems, the consulting engineers, E. R. Gritschke and Associates, have specified Webster Walvector Tru-Perimeter Heating for comfort and economy in many of the Perkins and Will schools.

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Left below: Teacher's lounge in Technical Building, Evanston Township High School, Evanston, Illinois. The exposed walls are heated with Webster Walvector painted to match wall color. Photo by Hedrich-Blessing.

Right: Library in Cascades Elementary School, Jackson, Michigan. Auditorium and gymnasium, in separate wings, are available for community use without opening the school proper.

p/a newsletter

National Association of Home Builders makes some predictions about builder houses: costs will rise about 3% in current quarter; "trade-in" arrangement, where prospective buyer turns in existing outgrown house as he would an outmoded automobile, will grow in popularity; trend now is toward slightly larger house than last-year's model; one-floor house will be most popular; home air-conditioning will be even more widely accepted.

Steel Joist Institute and Overly Manufacturing Co. (fire doors and hardware) won Certificates of Exceptional Merit in Product Literature Competition sponsored by A.I.A. and Producers' Council. In addition, 11 Certificates of Merit and 24 Honorable Mentions were given. Armstrong Cork won most awards—five in three classifications. In space advertising category, only Honorable Mentions were awarded—to Armstrong (three mentions, for acoustical materials, flooring materials, and roof insulation series), to Kentile, and to Marble Institute of America.

Harvard's Graduate School of Design is now getting ready for fall term with new slate. Jose Luis Sert, new Dean, has appointed Serge Chermayeff and Reginald R. Isaacs as term professors. Hugh Stubbins has resigned from faculty to spend full time at practice; Lyman, Burchard, and Le Boutillier have left for other posts; Walter Bogner remains. Three of five key planning teachers are also leaving that Department.

Ted Kautzky, architect, artist, and author, died recently of complications following a major operation. Kautzky, familiar for many years to "Pencil Points" and P/A readers, where his distinctive drawings were first published, had become a top figure in the art world. His influence on pencil rendering techniques, and his approach to watercolor, explained in several popular books published by Reinhold, are best known of his many accomplishments.

Israel Institute of Technology in Haifa, Israel, plans to appoint a professor and an associate professor of architecture, in its expanding architectural department. Institute is looking for well-trained people who will happily fit in with life of that country and ultimately teach in Hebrew.

UNESCO Building, in Paris, seems to be making out better in its new phase than in former high-building scheme. The Breuer-Zehrfuss-Nervi team have come up with a Y-shaped, seven-story design which fits the site, complements adjoining buildings, and in itself is such a handsome structure (in model form) that former critics agree that it is "seductive" and "delicate" and forecast early approval.

Ben John Small, P/A columnist, has been elected president of N.Y. Chapter of Construction Specifications Institute, fast-growing organization of specification writers.

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newsletter

Fritz Gutheim is supervising research study at U. of Michigan to determine life cycle and obsolescence factors of school buildings.

Chuck Mortensen is replaced by John L. Haynes as Managing Director of Producers' Council. Mortensen goes to Chamber of Commerce of U.S. as Associate Manager of Trade Association Dept.; Haynes comes from N.P.A., where he has been Director of Building Materials Division.

Carrier Weathermaster Home Competition was won by Catalano and Caminos, Argentinian architects teaching at North Carolina State, where Catalano is acting head of School of Design. Area grand prize winners were Richard Dimit, Cambridge, Mass.; Larry Mallard and James Bennett, Greensboro, N.C.; Joseph Burnett, Chicago; Abe Geller and William Cox, N.Y.; Al Aydelott, Memphis, Tenn.; and Tom Bear, St. Louis, Mo.

Several large loan and capital grant allocations have been approved recently by HHFA, for redevelopment projects. They range from comparatively small blight-removal schemes (the "Sullins Street" project in Bristol, Va., for instance), to much more ambitious undertakings, such as the Western Addition project in San Francisco (see Progress Preview in February 1953 P/A).

Two huge private redevelopment schemes seem closer to fruition. Philadelphia's Penn Center Development, on the old Broad Street Station and Chinese Wall site, is going ahead in two sections: a Uris Brothers office building, and a community commercial center promoted by Walter H. Annenberg. No designers have yet been announced. In Boston, the Boston Center project on the Boston & Albany R.R. yards in Back Bay, will be developed by Stevens Development Company, with Stone & Webster as consulting engineers and construction managers; and with Belluschi, Architects' Collaborative, Bogner, Koch, and Stubbins joining forces as "Boston Center Architects" for the project.

New Federal construction contract form, which was put in effect on all Federal building June 19, still contains objectionable clause which committee of A.I.A., A.G.C., A.S.C.E., and A.S.M.E., pointed out some time ago. In fact, say members of this (disbanded) committee, new contract form is little changed from 1942 version it replaces. Worst feature is that it still gives Federal administrative officials right to render arbitrary decisions with no appeal possible, unless actual fraud can be proved on official agent's part.

Buford Pickens is new Dean of School of Architecture at Washington U. in St. Louis. He will be succeeded by John Ekin Dinwiddie of San Francisco, as Director of College of Architecture at Tulane, in New Orleans.

Howard T. Fisher will run a summer session at Lake Forest College, in that Chicago suburb, on Integrated Building Design and Construction. Course will be based on Teaching Laboratory concept which Fisher and others have been studying and developing.

Howard C. Sullivan, for 40 years Head Architect of Bureau of Yards and Docks of the Dept. of the Navy, has retired. His work for a reasonable contemporary expression in government architecture has won him many friends in the profession as well as a number of honors and competition awards.

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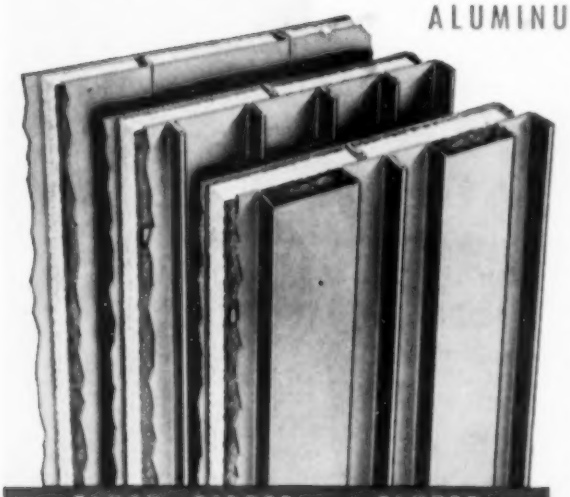

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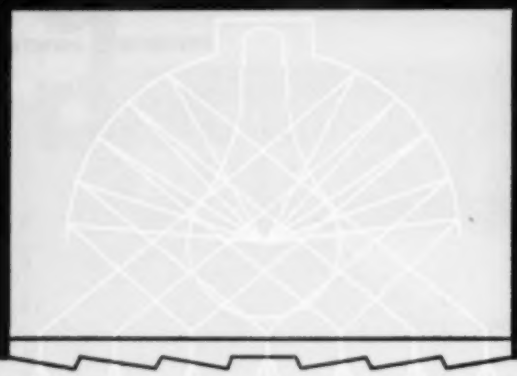

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Dear Editor: *I am enclosing a copy of a letter I have written William Stanley Parker, Chairman of the A.I.A. Committee on Contract Documents, regarding a legal case which is of extreme importance to the architectural and engineering professions.*

I hope that your readers will take its implications seriously. NATHAN WALKER
New York, N.Y.

William Stanley Parker, Chairman
A.I.A. Committee on Contract Documents
120 Boylston Street
Boston 16, Mass.

Dear Mr. Parker: I am writing you in my capacity as counsel for the New York Chapter of the American Institute of Architects, concerning a case that was decided by the Appellate Division, Second Department, New York, in January of this year, Madawick Contracting Co. Inc. v. Travelers Insurance Company. It is officially reported in 281 App. Div. 754. The facts briefly were as follows:

Madawick was the subcontractor. It agreed to indemnify the general contractor for injury to or destruction of property arising out of the building operations. Madawick agreed to and did provide various forms of liability insurance. The agreement between the subcontractor Madawick and the general contractor provided that any claim or dispute arising thereunder should be settled by arbitration. Travelers issued its policy to Madawick, undertaking "to pay on behalf of the insured all sums which the insured shall become obligated to pay by reason of the liability imposed upon it by law for damages because of injury to or destruction of property." The policy provided that Travelers would defend any suit against the insured (Madawick) alleging such injury or destruction and seeking damages on account thereof. The policy also contained the following significant provision: "No action shall lie against the company (Travelers) until the amount of the insured's obligation (Madawick's obligation) to pay shall have been finally determined either by judgment against the insured (Mada-

(Continued on page 22)

flat-chested "me too"

Dear Editor: I have read your P.S. to Elizabeth Gordon in May 1953 P/A. I greatly admire you for the calm restraint of your criticism, but I have a feeling you generally agree more than disagree with her text.

I happen to be one who endorses Miss Gordon's point of view. In my opinion, she has taken a courageous stand and has voiced the opinion of many more of us than you realize. By some manner she has been able to commit *House Beautiful* to a definite stand, which is obviously difficult for a strictly professional journal such as yours to do.

The grave danger lies in the inflated overemphasis of presentations of the "cultists" by the various journals to a point where such power of the press deeply impresses our young architects and students. In order to "belong" I'm afraid they feel that they must adopt the "me too" attitude and this they can do by taking the line of least resistance by grinding out this flat-chested garden variety of architecture.

I say power to Elizabeth Gordon for her definite stand—it takes courage. Her explosion will do some good. It should make a lot of architects reconsider the reasons and background for their designs.

It is the duty of the journals to publish the considered best work of all, but I feel too much importance has been placed for too long for a time on the "purists."

The pendulum will, no doubt, continue to swing back and forth, and I understand that F.L.W. will really give Miss Gordon's beginning a jet-propelled shove in June or July *House Beautiful.*

I have talked to many architects about Miss Gordon's article, and they are overwhelmingly in favor. I intend to use it as my theme in delivering the commencement address to Harwell Harris' graduating class at the University of Texas in Austin.

I only wish this explosion had originated with a professional journal,* but I understand the reasons why it wouldn't be "practical." KARL KAMRATH
Houston, Tex.

* *For a forecast of this variance in contemporary taste, see p. 103 of January 1950 P/A.*

lessons of experience

Dear Editor: I think you made (P.S., May 1953 P/A) a very considerate and adequate answer to Elizabeth's recent tirade against.

It is obvious Elizabeth has not attempted to do much design work lately. If she had she would be more grateful for the lessons taught by efforts to evolve an order using new materials.

However, it is good to have the faults of certain ideas forcefully exposed. We can't afford to "slap on a Mies" elevation because of appearance or publicity value. Yours for progress. GEORGE C. RUDOLPH
New York, N. Y.

rearranges estimate

Dear Editor: Your editorial, May issue, is tops. It rearranges considerably my previous estimate. Kudos to you.
DONALD BARTHELME
Houston 6, Tex.

educational sources

Dear Editor: Your May P.S. reply to Elizabeth Gordon's editorial in *House Beautiful* (April 1953) was very welcome. I am sure that the combined reaction of laughter and deep thought which her remarks caused in my architecture class were not unique to it. It is statements such as yours that serve to clarify some of the confusion as to standards that must exist in the minds of all students. It is material such as this that serves to make PROGRESSIVE ARCHITECTURE an important educational source.
MORTON L. LEVY, JR.
The Rice Institute
Houston, Tex.

no more need be said

Dear Editor: Just read your P.S. in May 1953 P/A, and I hasten to tell you that I think you did a wonderful job. You said all the things that should have been said to Miss Gordon, and you said them in just the right way.

I am at a loss to comment further because you have summed the whole thing up and your statement seems to be complete. No more need be said.
FRED BASSETTI
Seattle 1, Wash.

(Continued on page 10)

p/a views

(Continued from page 9)

beasts of prey

Dear Editor: Thank you for publishing your letter to Elizabeth Gordon (May 1953 P/A). Your viewpoint is clear, complete, and patient to the extreme, meriting the support of every high and broad mind in or out of the profession.

Unfortunately, damage has been done by Miss Gordon. The average reader can only be confused when extraneous ideological criteria are inserted into matters of purely architectural significance, and confusion is a fertile field for demagogy.

Lest this new "wave of the future" should sweep on, I am preparing designs in pre-Columbian adobe and painted deerskin which should be free of foreign taint by anyone's standards. As a diversionary tactic, architecture might pass the buck to automotive design or *haute couture* . . . Goodness, these European influences seem to lurk like beasts of prey on every side!

ANTHONY ELLNER, JR.
Clemson, S. C.

weakness in the armor

Dear Editor: I always turn to your P.S. for entertainment and enlightenment; therefore, I was especially interested in your reply to Elizabeth Gordon in May 1953 P/A because I had wrestled with the same problem, attempting to point out wherein she was only half right in her recent "threat campaign."

I understand that she received several hundred replies from various people around the country. Knowing her technique of making a campaign last for several issues, I am wondering if she will attempt to lift out of context and quote from some of the replies for her own purposes. I am enclosing herewith a copy of my (lengthy) reply in which I tried to say much the same things you said, but in another way. Neither you nor I mentioned one objection to the Gordon campaign which I hear frequently voiced: *viz.*, that her violent objection to "less is more" fits rather neatly her business manager's policy as well as her own idealism for the next America. As a fellow editor who also has a business manager, you might be in a vulnerable position to criticize her, but one can hardly miss seeing this weakness in her shining white armor.

So far as I know, you are the only one of the architectural journals to print a reply or commentary. Are the others going to ignore the whole issue?

BUFORD L. PICKENS, Director
School of Architecture
Tulane University
New Orleans, La.

sincere and mature

Dear Editor: A short note to congratulate you on your letter to Elizabeth Gordon, Editor of *House Beautiful*. It is a very thoughtful, sincere, and mature answer and in my opinion will far outrank the many prejudicial, sarcastic, and unconstructive letters she will receive.

(Continued on page 18)

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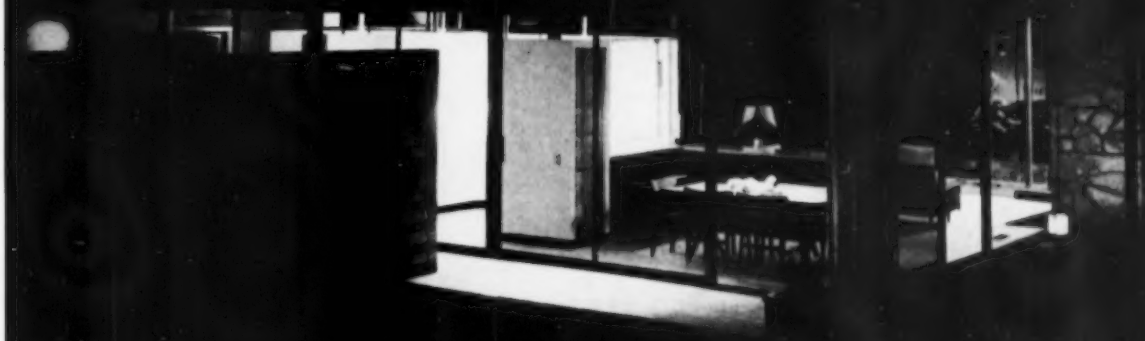

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p/a views

(Continued from page 10)

I believe you have touched on the crux of her trouble when you quote the letter she wrote you stating how mad she has finally become and her need for exploding. Nowadays, most of us know that the question of an extraordinary reaction of any type to a given stimulus lies within ourselves. Calling the designing of van de Rohe, Gropius, Le Corbusier, and the exponents of the International Style the stimulus, we see that the majority of us (fortunately for our peace of mind) can look on it and, as you say, take pleasure and knowledge from the parts we like, but at the same time acknowledging or even profiting by their flaws without experiencing an extreme reaction of annoyance similar to Miss Gordon's.

In order that Miss Gordon may give her readers less personally biased articles I suggest that she should search within herself and if necessary seek help to find out why these pioneering men and their influences are affecting her so personally and causing such a violent emotion.

(Mrs.) PATRICIA C. SCOTT
R.I.S.D. Student
Providence, R. I.

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another P/A first

Dear Editor: Your "Airport Terminal Buildings" feature, May 1953 P/A, is a highly commendable work. In the event you keep score on P/A "firsts," chalk one—for you have produced the first comprehensive article on the subject. Congratulations! H. ORVILLE VARTY
Bethesda, Md.

P.S. A few extra zeros found their way to the graph "Newspaper and Novelty Concession" on page 74. It should read in hundreds of square feet: *i.e.*, 200, 400, 600, 800, rather than thousands.

lift or lasting impression?

Dear Editor: In her article, "The Issue of Integration," *(February 1953 P/A)* Sibyl Moholy-Nagy succeeds in proving that she gets all the esthetic lift she desires from modern architecture through interplays of "textured surface of the marble," "golden wood grain," "a curved concrete vamp," "primary color panels," "light-absorbing glass walls." However, fortunately for sculptors, most people are left pretty hungry esthetically on such a sparse diet. "Sculpture in the round" (or in relief) is neither static nor incompatible with modern structure, where one finds many barren blank walls which are not "transparent," and many axial as well as "non-axial" focal points, which fairly cry for the life-giving quality of sculptural form and movement.

Tastes differ, and no sculpture appeals equally to all; but true sculpture speaks with lasting impression to all. The STATUE OF LIBERTY, whether Mrs. Moholy-Nagy likes it or not, symbolizes as strongly as ever much that we hold dear; Dan French's LINCOLN has played no small part in keeping the memory of the Emancipator fresh in the hearts of his country.

(Continued on page 28)

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN DOORS

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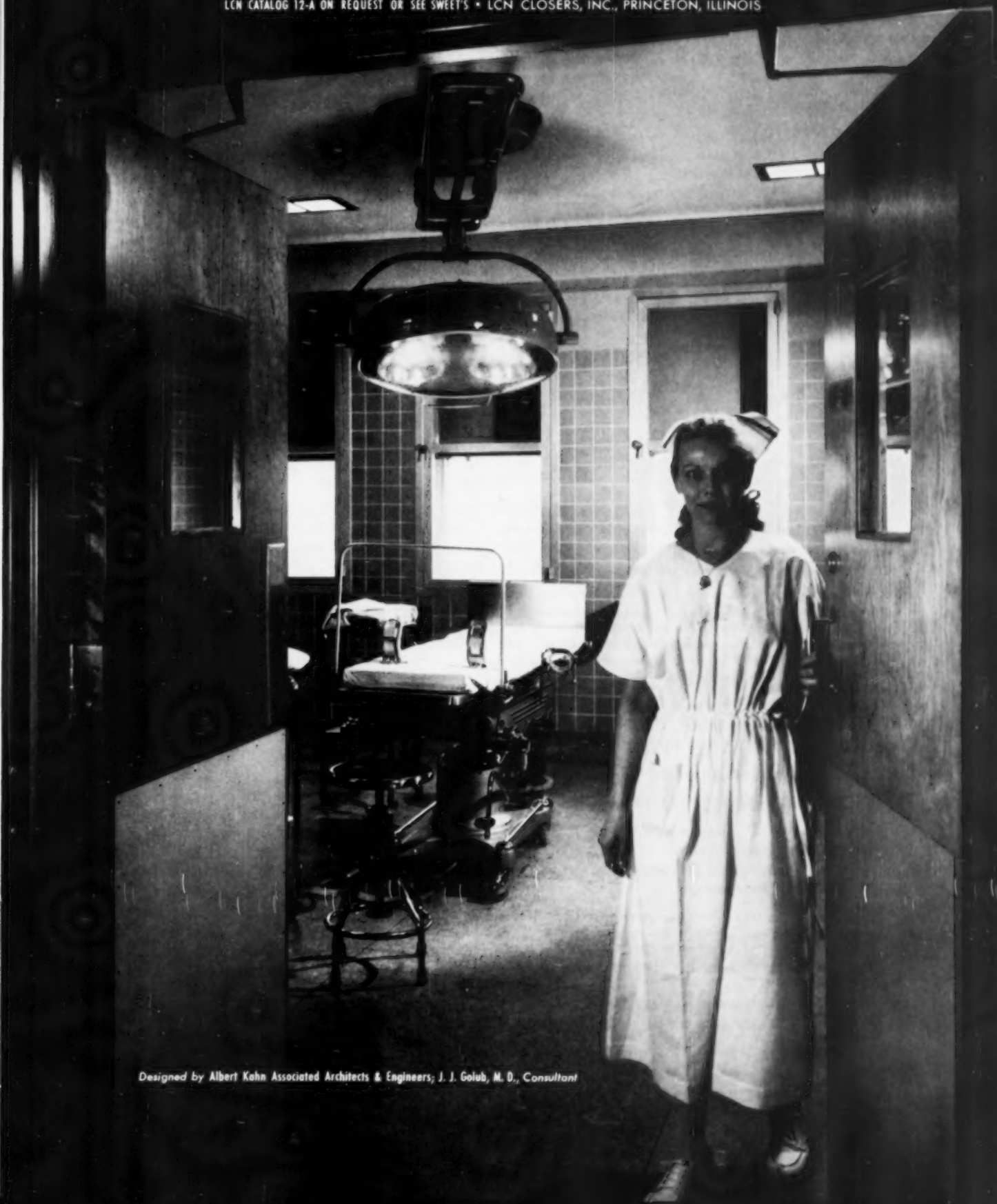
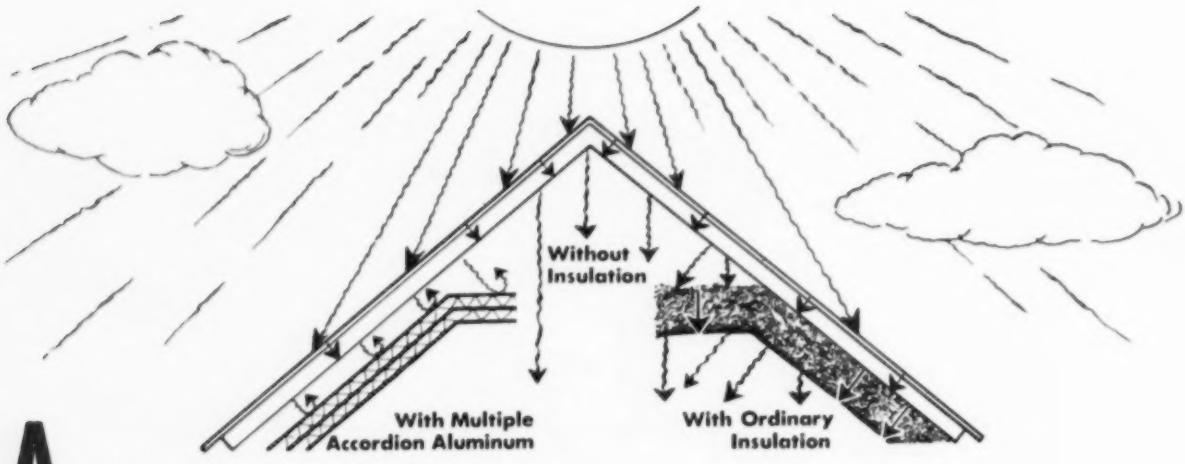
LCN CATALOG 12-A ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



Designed by Albert Kahn Associated Architects & Engineers; J. J. Golub, M. D., *Consultant*



An Empty Roof Space Would Be The Best Insulation Against Summer Sun, *Were It Not For Radiation*

Convection is not a problem—there is no Convection downward. The only heat flow in summer through an empty roof space is Radiation, except for insignificant Conduction. Heat flow by conduction through roof spaces—through any building air space—is about 5%.

Ordinary insulation may retard heat for two or three hours, but builds up a large heat storage as compared to empty space. Fairly solid, it is a much better conductor of heat than empty air. Its surfaces absorb more than 90% heat rays. Some heat passes through it by conduction, and is then radiated into the rooms at a 90% rate through the day and into the night.

The solution is to use a material which has little substance and whose surfaces will not absorb nor emit appreciable radiation. Silver foil would be excellent but tough multiple accordion aluminum, which weighs but ¼ oz. a sq. ft., is inexpensive and has practically the same heat-ray absorption and emissivity (2% more). It absorbs only 3% of the preponderant radiant heat flow through building air spaces inside walls, ceilings and roofs, and emits but 3%. It is practically non-condensation forming and impervious to vapor. Its multiple air spaces virtually eliminate conduction.

The National Bureau of Standards Booklet BMS52, "Effect of Ceiling Insulation upon Summer Comfort," lists on page 10, the "insulations tested" in the order of decreasing effectiveness in protecting the ceiling against summer heat, as follows:

"1) Two layers aluminum foil (both sides of each layer reflecting).

"2) Full thick (3⅝") rockwool."

Try this test: Tack or scotch-tape 3 sq. ft. of multiple accordion aluminum (we will send it free on request) to the underside of a hot roof or ceiling, whether uninsulated, or insulated with ordinary insulation. Step in and out of the protected area beneath. The difference will be so marked, you will need no thermometer.

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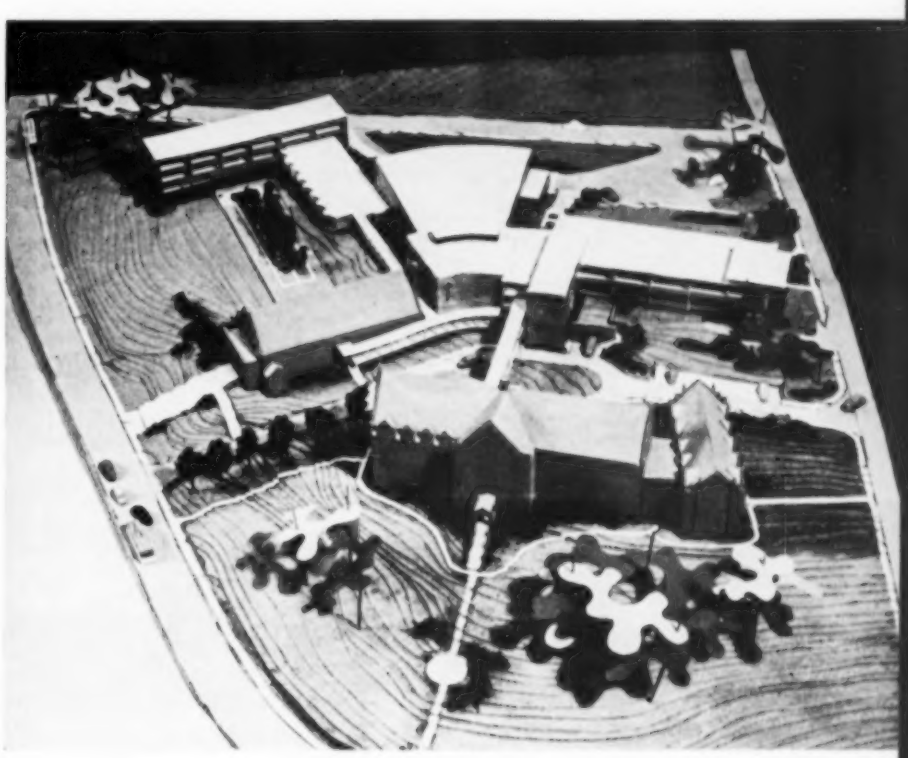
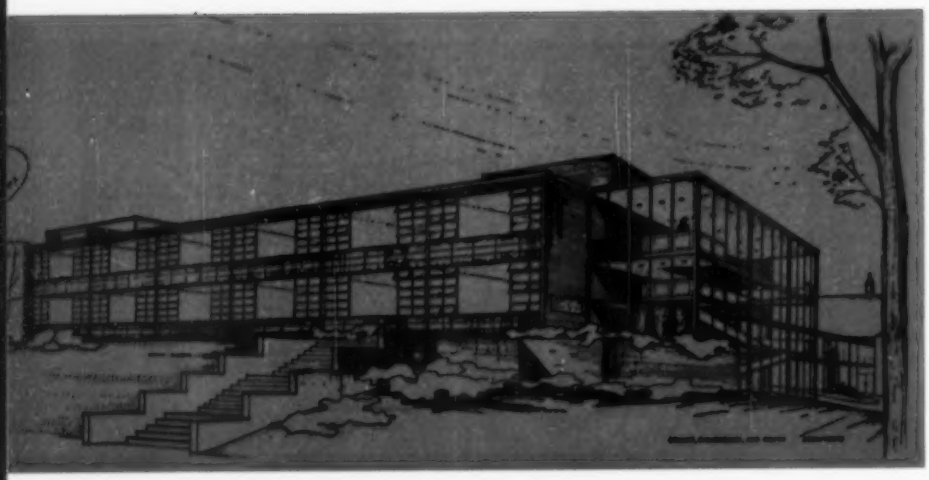
academy campus plan, high school for 500 girls

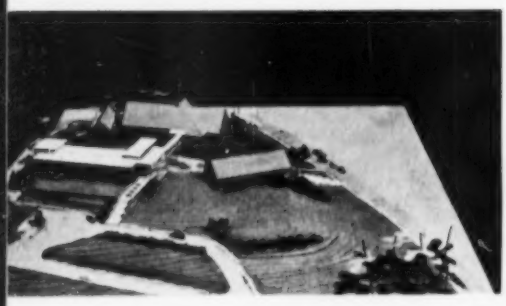


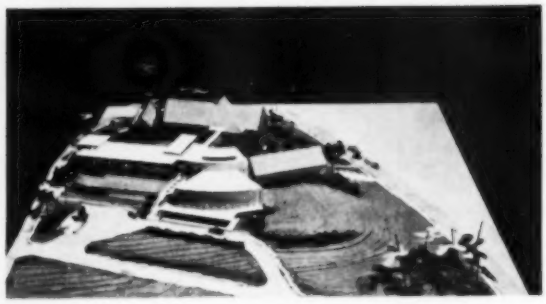
Expansion of the facilities of Mount St. Mary's Academy, a modified Collegiate Gothic group on a wooded hilltop in a built-up residential section of Little Rock, Arkansas, was the commission handed Erhart, Eichenbaum & Rauch, Little Rock architects, whose program for development of an academy campus is shown here and overpage. Existing structures include a convent building and a gymnasium *(foreground of model photograph at right)*, and it is proposed to construct, successively, a $400,000 high school for 500 girls, an auditorium to seat 1500, and a junior college building.

In developing a program for development of the Academy property, the architects recognized that the Collegiate Gothic structures had established a building line on the curving corner of the site. They plan to add the required additions along the property lines facing both streets, using harmonizing shades of brick for exterior treatment although the design expression of the new buildings will be contemporary. Special attention was paid to the connecting "bridges" between main buildings, as well as the landscaping elements that will unify the entire plan.

An interesting point of planning was the architects' decision to utilize the wedge-shaped auditorium as the core of the new buildings—with the adjacent units spread thereby to align with the streets along the boundaries of the site. Another consideration was to avoid long west fronts (and hot afternoon sun) and use of generous







Planned for immediate construction is the urgently needed high school (sketch at left), *which will be connected to the existing convent buildings* (top photo). *Second stage of development* (middle photo) *will add the auditorium, and the third stage* (bottom photo) *will add the L-shaped junior college building.*

Photos: Leonard Photo Service, Inc.

canopies to shade windows on south façades. Intercommunication was carefully studied: the much-used auditorium being at the center of the site (yet with special access for civic meetings, etc.) and the self-contained junior college building farthest from the main group.

The new high school unit being developed for immediate construction, will be a three-level structure with two floors of classrooms and service units in the ground floor. An enclosed foot-bridge will span the present entrance drive, connecting with the second floor of the existing convent. There will be 20 classrooms plus the usual special-purpose rooms, such as commercial, science, domestic science, and art rooms, a library, study hall, cafeteria, and reception unit.

Due to the nature of the academy as a private school for girls, the buildings will have a warmer, less institutional character.

Construction will be steel, welded-frame with bar-joist system, concrete block and brick. Sash will be steel and ceilings will be of acoustical plaster.

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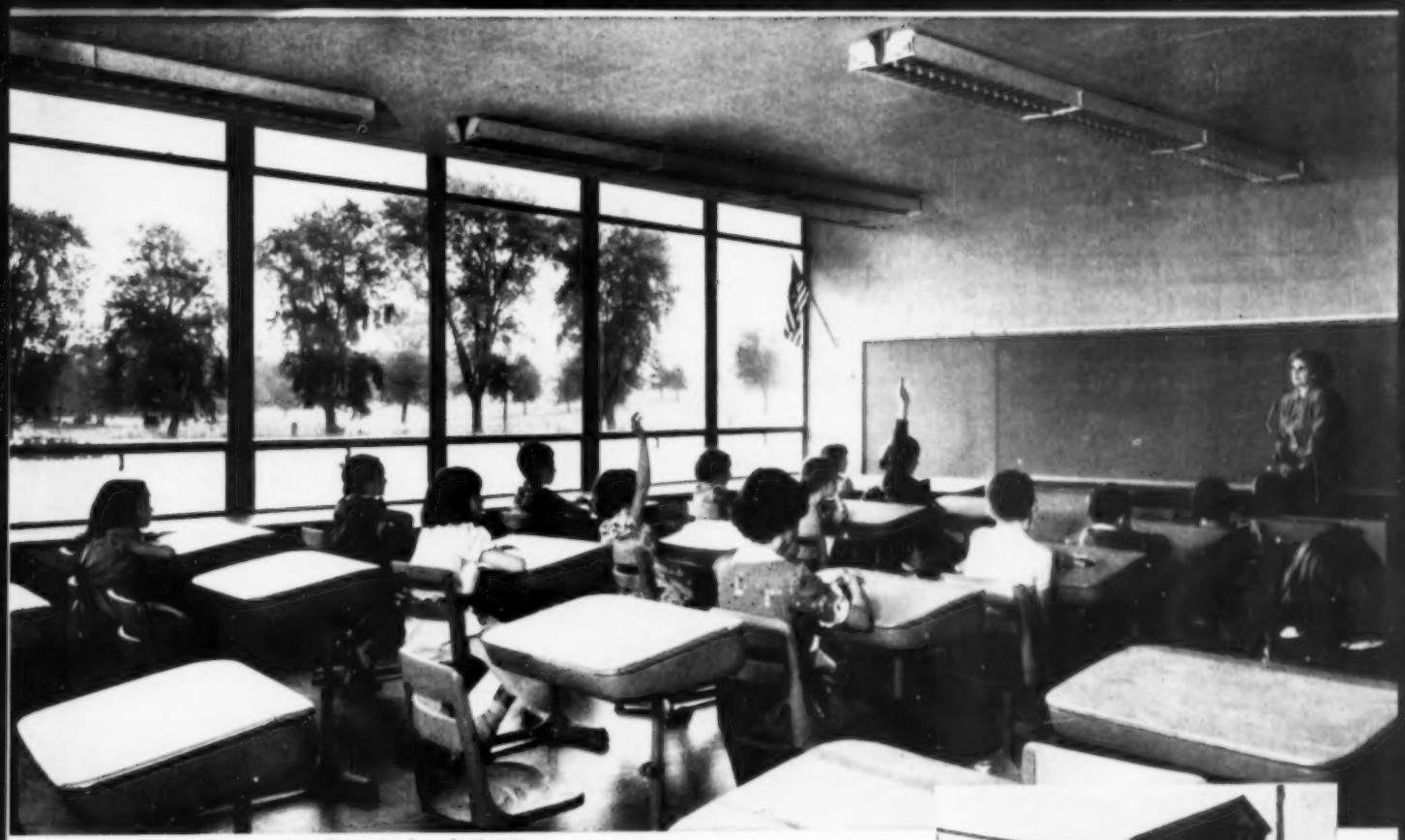

Igebrook Elementary School, McHenry, Ill. Architect: Raymond A. Orput, Rockford, Ill.

COMPARE THIS with your 4th Grade schoolroom

Remember your fourth grade schoolroom, how dark it seemed inside, how cooped-up you felt, especially on a spring day when the world was in bloom and you could barely see out?

Compare that with the daylight flooded classroom above. See how the wonderful wall of clear glass extends the room into the world beyond. There's no cooped-up feeling here!

There are many other good reasons for Daylight Walls. Illumination costs are reduced. Clear, flat glass admits more natural light than glass in any other form. When properly used, it can eliminate shadows, which cause glaring contrasts and eye discomfort. Notice the evenness of the lighting in this photograph taken without the aid of artificial lights.

When you build with large sheets of clear glass you provide, too, a wall that is inexpensive to construct (no masonry, lath, plaster or paint). And it's easy to clean, permanently beautiful. In the box below, you'll find facts on *Thermopane*® insulating glass that helps to reduce heating costs, adds to comfort and shuts out distracting noise.

If you design schools, you will enjoy reading the newest authoritative book on daylight illumination, *How to Get Nature-Quality Light for School Children*. Principles set forth are applicable for other buildings, too. For a free copy write Libbey-Owens-Ford Glass Co., 4573 Nicholas Bldg., Toledo 3, Ohio. ®

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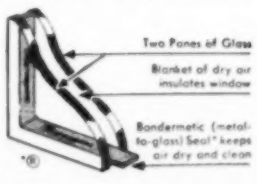

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p/a views

(Continued from page 18)

men; and John Gregory's panels on Paul Cret's FOLGER LIBRARY help to make that building one of the joys of our Capital city. Lee Lawrie's ANGELS on the Church of the Heavenly Rest in New York, and his sculptures for the Nebraska State Capitol are unforgettable; Donald De Lue's ALCHEMIST in Philadelphia, Fraser's, Paul Jennewein's, and the late Adolph Weinman's works on many buildings (some too recent not to be called Modern) reassert the vital role of sculpture in creative architecture. Is Radio City already old hat? Would it be half the mecca it is for tourists were it barren of its sculpture?

With the repetitive sameness of so much contemporary structure, the practical and functional need for sculptural features to individualize and identify should be obvious. Putting free-standing letters like pigeons in a row on overdoor eyebrows (or what have you) doesn't work: signs all look alike, and people won't read. Give them something beautiful or powerful or meaningful in sculptural form they recognize and appreciate (spare them from contemporary Puzzle & Pretzel works, please). They will see and remember. What is more, the buildings with such sculpture will come alive.

WHEELER WILLIAMS, President
National Sculpture Society

necessary to growth

Dear Editor: Allow me to express my appreciation for your timely P.S. covering your visit to Poland and your participation in the international architectural conference. It is good to have news of the work of our colleagues in areas of the world about which we hear so little today, and to know that our political differences need not affect the strengthening of our professional relationships. This latter is so necessary to our continuing growth as architects and as human beings.

JOHN R. POINTER
University of Southern California
Los Angeles, Calif.

praise from "outside"

Dear Editor: We eagerly read P/A for your fine approach to education buildings. As people outside, we can see each day how much work still remains to be done in general architectural education for the public; P/A is a force in this general education, and your continuing efforts can be of great importance.

JOHN V. ALLCOTT, Head
Department of Art
University of North Carolina
Chapel Hill, N. C.

compliment to staff

Dear Editor: I have been intending to write you for some time to compliment you and the entire staff of P/A on the manner of presentation and the quality of work which you are presenting in P/A. We regret the trend toward builders and mortgage banker news bulletins which is overtaking some of your sister publications.

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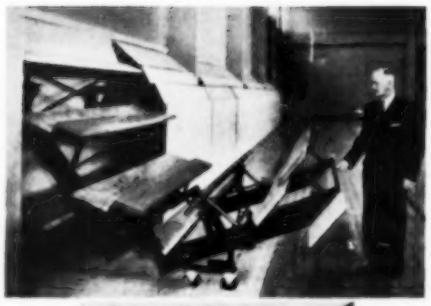

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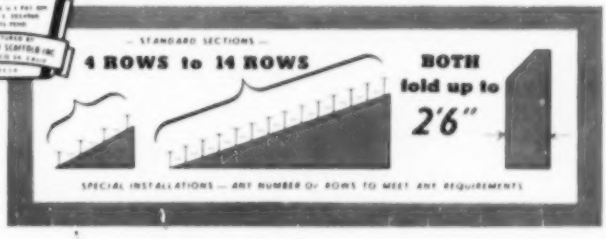

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p/a views

(Continued from page 9)

wick) *after actual trial* or by written agreement of the insured and the company." (*Underscoring supplied.*)

A claim for property damage arose. The general contractor served a demand for arbitration on Madawick, the subcontractor. Madawick sent the demand to Travelers, which replied that it could not consent to the proposed arbitration or defend Madawick in the arbitration proceedings or be bound by the result of the arbitration. The court held that the policy did not require Travelers to defend the subcontractor in an arbitration proceeding, nor obligate Travelers to pay any award entered against Madawick in such a proceeding. Since no action would lie against Travelers until Madawick's obligation to pay had been determined by judgment after actual trial, the court in effect ruled that the words "actual trial" did not include a hearing and determination by arbitrators.

There was a strong dissent in this case. It may very well be that when the question is finally submitted to the Court of Appeals, the highest court in this state, a contrary ruling will be made. However, in the interim, we must assume that an award made in an arbitration proceeding does not constitute a determination of liability after actual trial.

Under the circumstances, it is most important that contractors who furnish liability insurance policies to owners, and subcontractors who provide liability insurance in favor of general contractors, be made aware of the legal and practical implications of this ruling. They must make certain that the policies of liability insurance which they furnish do not restrict the insurance company's obligation to pay on their behalf any liability imposed upon them by law for damages "after actual trial," so that they will be protected if liability is established in any legal proceedings, whether "arbitration" or "suit." It is my understanding that not all of the insurance companies impose such restrictive provisions in their policies of liability insurance. It might be advantageous to make a survey in order to determine which insurance companies include such a restrictive provision. Following this survey an effort should be made to induce such insurance companies to modify their policies in order to safeguard the interests of the insured.

Contractors and subcontractors either must make certain that the policies of liability insurance which they may furnish do not embody the restrictive provision previously mentioned or they must eliminate from the construction contract or subcontract any provision for arbitration which would be inconsistent with the restrictions contained in the liability insurance policies.

I am sending a copy of this letter to Thomas Creighton, Editor of PROGRESSIVE ARCHITECTURE, so that he may bring this important subject to the attention of contractors and professionals.

NATHAN WALKER

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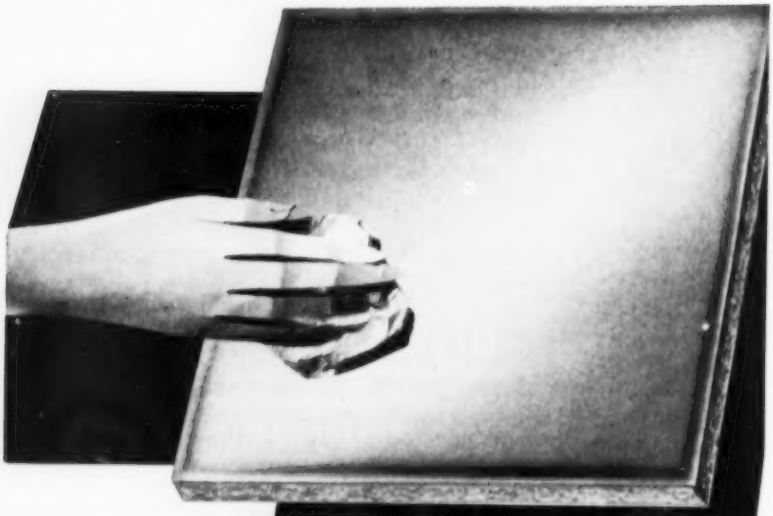

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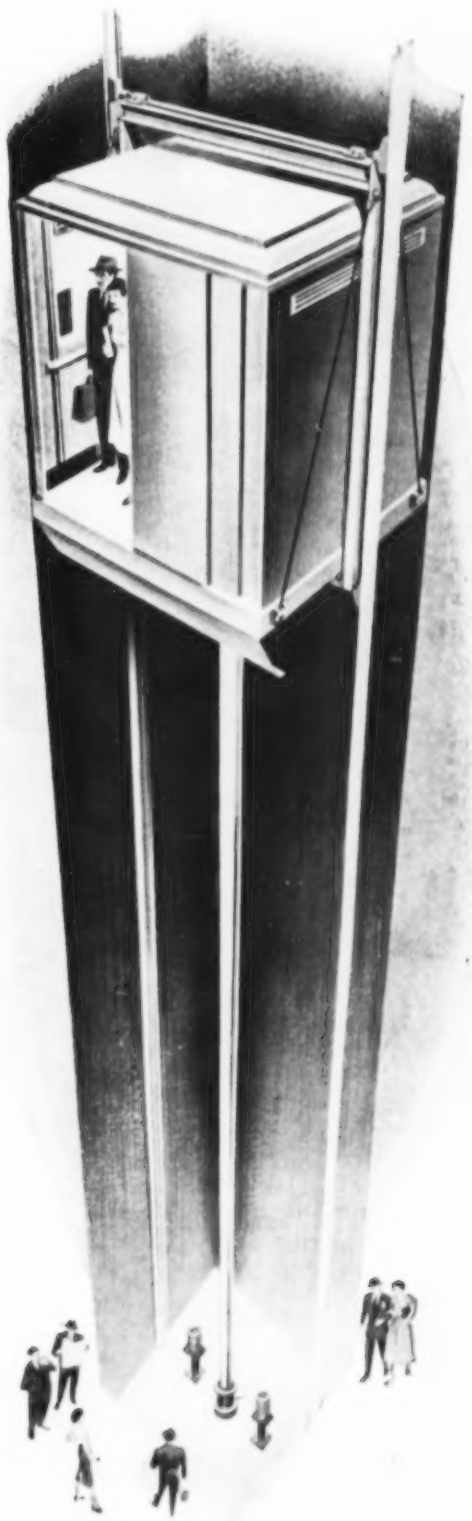


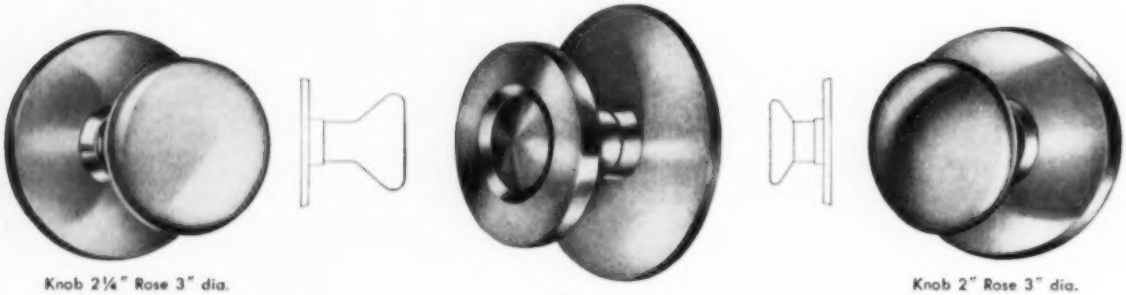
For cylinder locks —
outside Knob 2¼"
Escutcheon 5½" x 1¾"

AMBASSADOR by LOCKWOOD

Contemporary design at its finest
. . . completely concealed fasteners

For cylinder locks —
inside or communicating locks
Knob 2¼"
Escutcheon 4⅛" x 1¾"

● In this Ambassador series, the rich simplicity of modern design shows off to full advantage, thanks to a special fastening technique developed by Lockwood engineers. Screw-fastened underplates and a threaded collar provide rigid anchorage for escutcheon or rose, yet leave their burnished surfaces unmarred. The Ambassador design is available in cast brass, bronze or aluminum.



Knob 2¼" Rose 3" dia.

Knob 3" Rose 4" dia.

Knob 2" Rose 3" dia.

Lockwood

LOCKWOOD HARDWARE MFG. CO.
FITCHBURG, MASS.

see our CATALOG in SWEET'S FILE architectural

Decorator Doors help bring new color interest to the home. Notice how this 3-panel "Rancho" door harmonizes with room colors.

Look what happens when people find out about *Ponderosa Pine* decorator doors

They're coming by the thousands—requests from home planners for information about Ponderosa Pine Decorator Doors! National magazines—big city newspapers—are giving prominent editorial mention to these satin-smooth, crisply paneled doors that can so easily be decorated to provide new color interest. These Ponderosa Pine doors provide *extra* help in selling homes in today's highly competitive market. Find out the tremendous scope which Decorator Doors can give you in planning homes of distinction and sales-appeal. Mail the coupon for your copy of "Latest Color Style News."

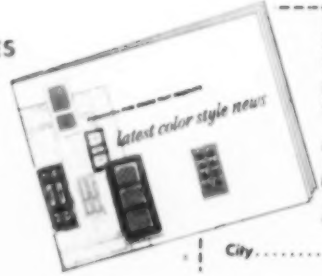
Now doors can style the mood of your rooms—as witness, this gay louver door of Ponderosa Pine permits ventilation—with privacy. An excellent choice for bedrooms and closets.

Ponderosa Pine Decorator Doors enable the owner to create "picture book doors" of rare charm with bird or botanical prints.

Panel doors come as a heritage from Spanish dons. That's why these doors are so appropriate in today's ranch-type homes where they create an authentic atmosphere.

COLORFUL 24-PAGE BOOKLET GIVES COMPLETE INFORMATION!

Page after page of illustrations and ideas!



Ponderosa Pine Woodwork
38 South Dearborn Street
Chicago 3, Illinois

Please send me a free copy of your full color book "Latest Color Style News."

Name .....

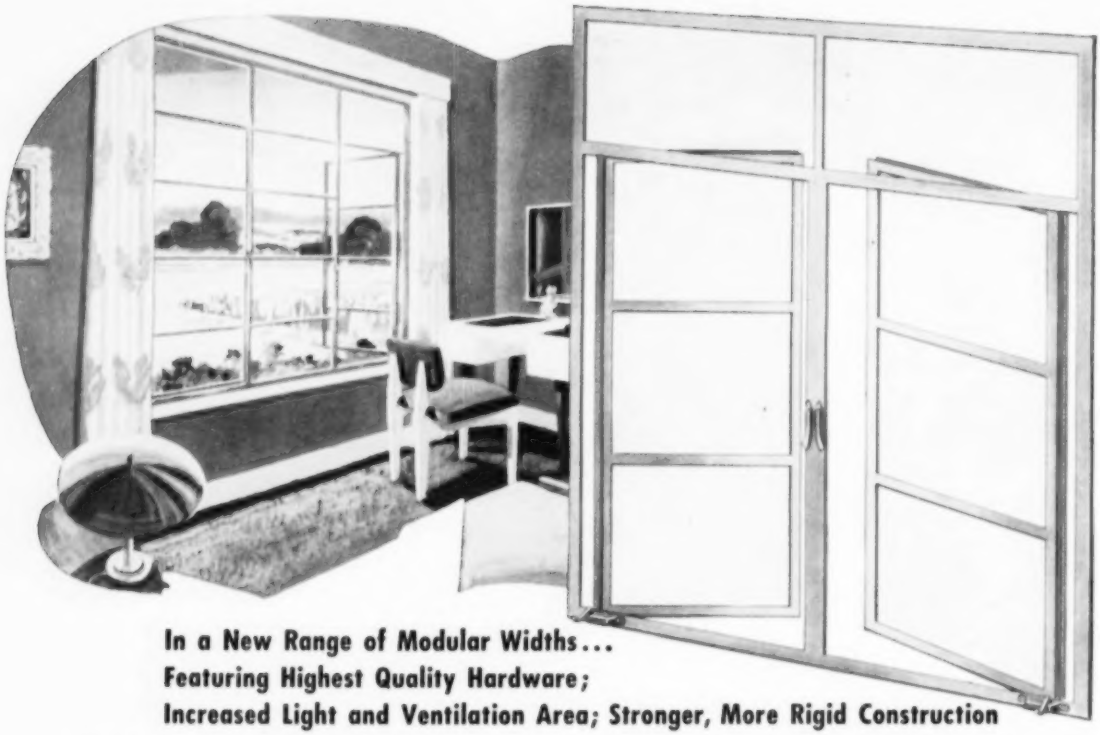
Business or Profession .....

Address .....

City ..... **Zone** ..... **State** .....

Now!

GET FAMOUS TRUSCON QUALITY IN NEW ALUMINUM CASEMENTS



In a New Range of Modular Widths...
Featuring Highest Quality Hardware;
Increased Light and Ventilation Area; Stronger, More Rigid Construction

Here's the improved aluminum casement that's backed by Truscon's 50-year history of outstanding service to the building industry. Look at the advantages it offers you:

- It is manufactured in *a new range of modular widths which match standard masonry dimensions.* This new "masonry-matched" feature means no off-size openings. It means savings for your clients on both labor and materials in masonry and wood framing.
- It is extra strong. Heavy extruded aluminum sections are used throughout. Ventilator section is 1⅛" deep, with web member increased 50% beyond normal thickness for adequate stiffness and airtight closing. Truss-type aluminum hinges add strength while retaining slender architectural lines.
- Hardware and accessories are aluminum and stainless steel.
- Larger glass sizes allow *approximately 8% more light and ventilation* per window opening. In the modern manner, new Truscon aluminum casements emphasize horizontal lines. Ventilators are wider.
- Aluminum screens and storm sash are available.
- Heights are identical with those of standard steel casements. You can specify new Truscon aluminum casements in homes originally planned with windows of other widths.

Truscon aluminum casements are available in warehouse stocks for immediate delivery to job sites and to dealers. Truscon responsibility guarantees the quality of its products. You'll find details on other Truscon metal building products in Sweet's; write us for latest bulletins containing complete description and specifications on Truscon aluminum casements.

TRUSCON STEEL DIVISION
REPUBLIC STEEL CORPORATION
1060 ALBERT STREET • YOUNGSTOWN 1, OHIO

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON® a name you can **build** on

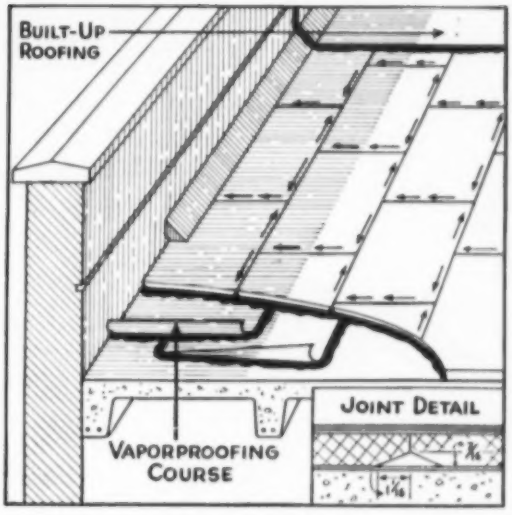
New Protection Against Roof Damage

NEW CELOTEX Channel-Seal

TRADE MARK

ROOF INSULATION

guards against blistering and separation of felt and insulation



As you can see in the diagram, high-pressure air pockets do not build up with Celotex Channel-Seal Roof Insulation. Pressures due to temperature differences are constantly being equalized by movement of air through the channels. This channeling principle of roof protection has been proved effective by many years of actual use on jobs of every type and size.

For an extra margin of safety against costly roof damage due to the building up of high-pressure air pockets where insulation meets felt—specify new Celotex Channel-Seal Roof Insulation!

Each piece has bevels 7/16" high by 1 1/16" wide on all bottom edges. When units are laid on the deck, these bevels form a network of broad, interconnecting channels extending over the entire roof.

"Safety Release" for Trapped Air

As higher pressures build up in some areas of the roof because of rising surface temperatures, they are relieved by air and vapor movement through the channels. This equalizes and reduces pressure—minimizes the danger of blistering or separation of felt and insulation!

Made of a low-density board of high insulating efficiency, Celotex Channel-Seal Roof Insulation comes in a range of thicknesses to meet the specific insulation requirements of each job. It is asphalt coated on both sides and all edges, for extra moisture protection in storage and on the job.

Low in Cost

Light and easy to handle, yet remarkably rigid and tough, Channel-Seal is low in both initial and applied cost. Resists damage from job handling. Quick, easy to apply. Smooth surface assures positive bond to both roof deck and roofing felt.

Moreover, it is the only roof insulation made of tougher, stronger, long Louisiana cane fibres—and protected by the patented Ferox® Process from dry rot and termite attack. Write now for full data on Channel-Seal and other types of job-proved Celotex Roof Insulation. The Celotex Corporation, Dept. PA-73, 120 S. LaSalle St., Chicago 3, Ill.

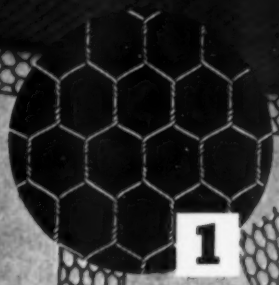
For a Better Roof... Specify Genuine **CELOTEX**

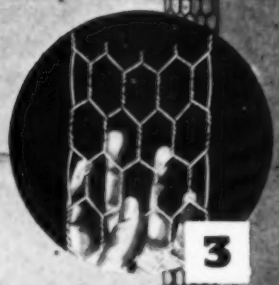
REG. U. S. PAT. OFF.

ROOF INSULATION

THE CELOTEX CORPORATION, 120 S. LA SALLE STREET • CHICAGO 3, ILLINOIS

3 WAYS





1. Notice how Keymesh is lapped and covers the entire ceiling surface. This assures smooth, long lasting plaster where it is most desired by builders, contractors, architects and owners.

2. Keybead protects the outside corners against nicks and cracks and makes an easy-to-follow plaster thickness guide. Outside plaster corners are more easily made with the help of these Keybead corner beads.

3. Keycorner on the inside corner, on joints above and below the window, at the corners of the window and at the entire ceiling-wall juncture provides the extra assurance against plaster cracks usually occurring at these areas.

to guard against plaster cracks

1 KEYMESH on ceilings

2 KEYBEAD on outside corners

3 KEYCORNER on inside corners, joints and ceiling-wall junctures

KEYMESH applied on the entire ceiling area of any room assures more crack-resistant plaster surfaces. Because stresses and strains are distributed more evenly, longer plaster life results. There is no limit to the interior design and construction possibilities when ceilings are completely Keymesh reinforced. Keymesh also provides strong plaster reinforcement, with desirable heat transfer properties, for ceiling radiant heat installations.

KEYCORNER applied at corners, joints and ceiling-wall junctures prevents future plaster crack troubles. Its preformed-for-corners, convenient width and easy-to-handle features provide fast, economical reinforcing exactly where needed. It snaps into corner shape by merely flexing the cut piece. And, Keycorner lies flat, too, for flat joint reinforcing.

KEYBEAD produces strong, economical "true" outside plaster corners. The open-mesh design of the Keybead wings permits plaster to flow through the steel wires and give a generous bond of plaster to lath . . . a solid plaster corner results. This thorough steel wire embedment combined with the true-formed bead makes strongly reinforced, more highly crack-resistant outside plaster corners.

THE COMBINED USE of Keymesh on the entire ceiling area with Keycorner at inside corners and joints and Keybead on outside corners, results in trouble-free, lasting plaster beauty . . . a valuable selling advantage to plasterers, lathers, builders, contractors and architects alike. It promotes greater owner satisfaction—more *quality* plaster jobs.

KEYMESH	KEYCORNER	KEYBEAD
3′ and 4′ widths, 150-ft. rolls, Galvanized	4″, 5″ and 6″ widths 150-ft. rolls, Galvanized	7′, 8′, 9′, 10′, 12′ lengths 2½″ wings, Galvanized. Packed in convenient cartons

Other gauges and sizes available

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

KEYMESH • KEYCORNER • KEYBEAD • KEYSTONE NAILS • KEYSTONE WELDED WIRE FABRIC • KEYSTONE TIE WIRE • KEYSTONE NON-CLIMBABLE FENCE • KEYSTONE ORNAMENTAL FENCE

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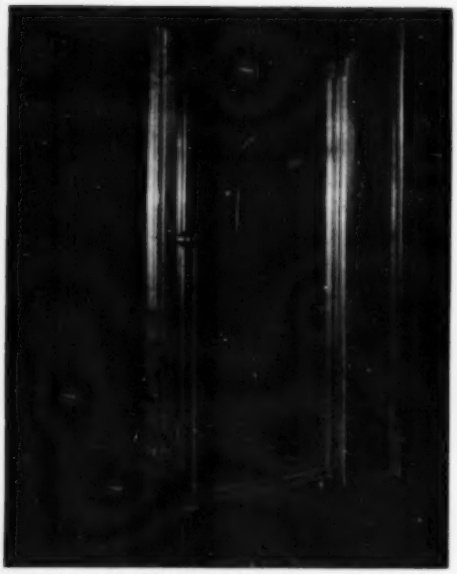
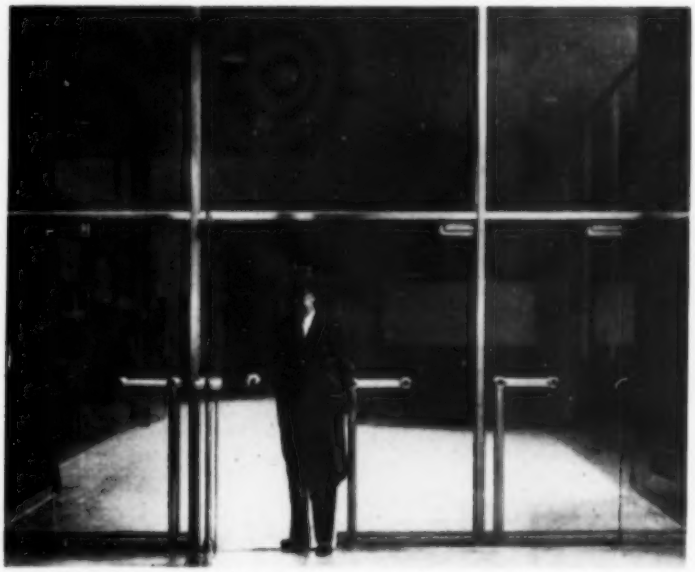
PITTCOMATIC...*"the nation's*

PITTCOMATIC hinges operate the sturdy Herculite Doors which form the entrance to the aluminum-faced skyscraper office building of the Aluminum Company of America at Pittsburgh, Pa. The magic-like operation of the Pittcomatic is controlled by a 10-volt switch, concealed in the door handle. It is so sensitive that the instant the handle is touched, the door starts to open by hydraulic action, smoothly and silently, in either direction. A steady flow of traffic into and out of the building is thus permitted with the utmost efficiency. Each door operates independently, so that the operation of one door in a battery can be discontinued without disrupting the operation of the others. Architects: Harrison and Abramovitz, New York City; Associate Architects: Altenhof and Bown; Mitchell and Ritchey.

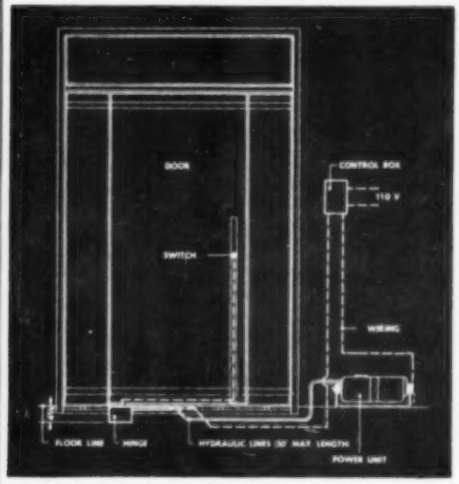
finest automatic door opener"



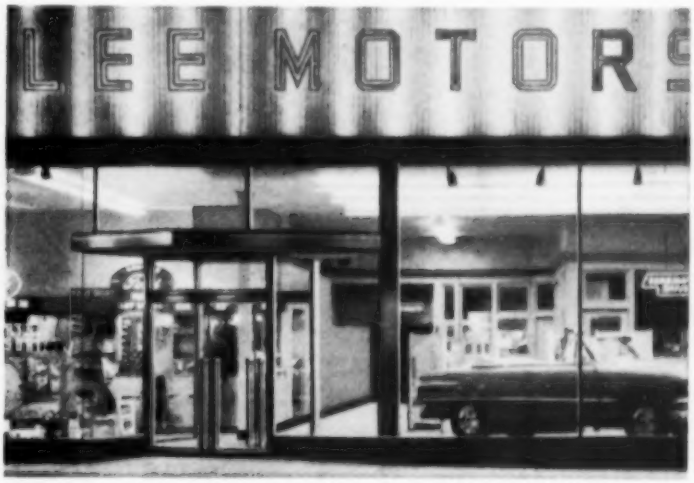
FOR ALL KINDS of industrial and commercial buildings, leading American architects are specifying the Pittcomatic automatic door opener. This building in South Bend, Indiana, is an interesting example. Architects: Schwartz & West, South Bend, Indiana.



BANK EXECUTIVES are "sold" on the Pittcomatic. They state that their customers like the easy response of doors having this automatic opener; that these installations have actually attracted more customers. Architect: Wyatt C. Hedrick, Dallas, Texas.



THE POWER UNIT supplies hydraulic power to the hinge under the door through ¾" copper lines. The power unit is activated by a 10-volt circuit in the handle which passes through the control box. Oil lines are 3000-lb. test. The action of the door in all respects can be regulated by adjustments provided in the control box and the hinge. No power can build up. It is a safe door.



IN RETAIL STORES, like this automobile showroom in Toledo, Ohio, the Pittcomatic not only brings the practical advantages of its automatic operation, but, with Herculite Doors, adds to the over-all feeling of open-vision, which is such a proven sales stimulator. Architects: Sanzenbacher, Morris & Taylor, Toledo, Ohio.

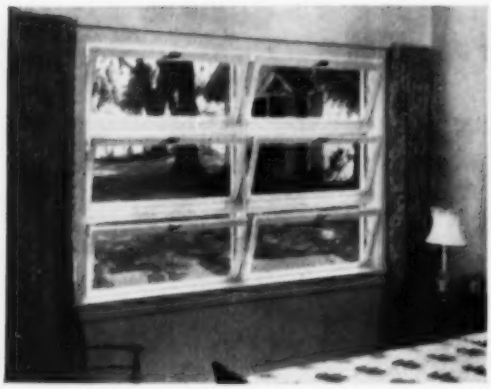
For complete information on the Pittcomatic, write to Pittsburgh Plate Glass Company, Room 3286, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

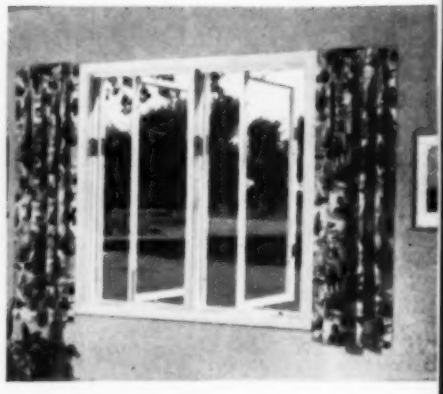
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

3 sash operations from just one window!



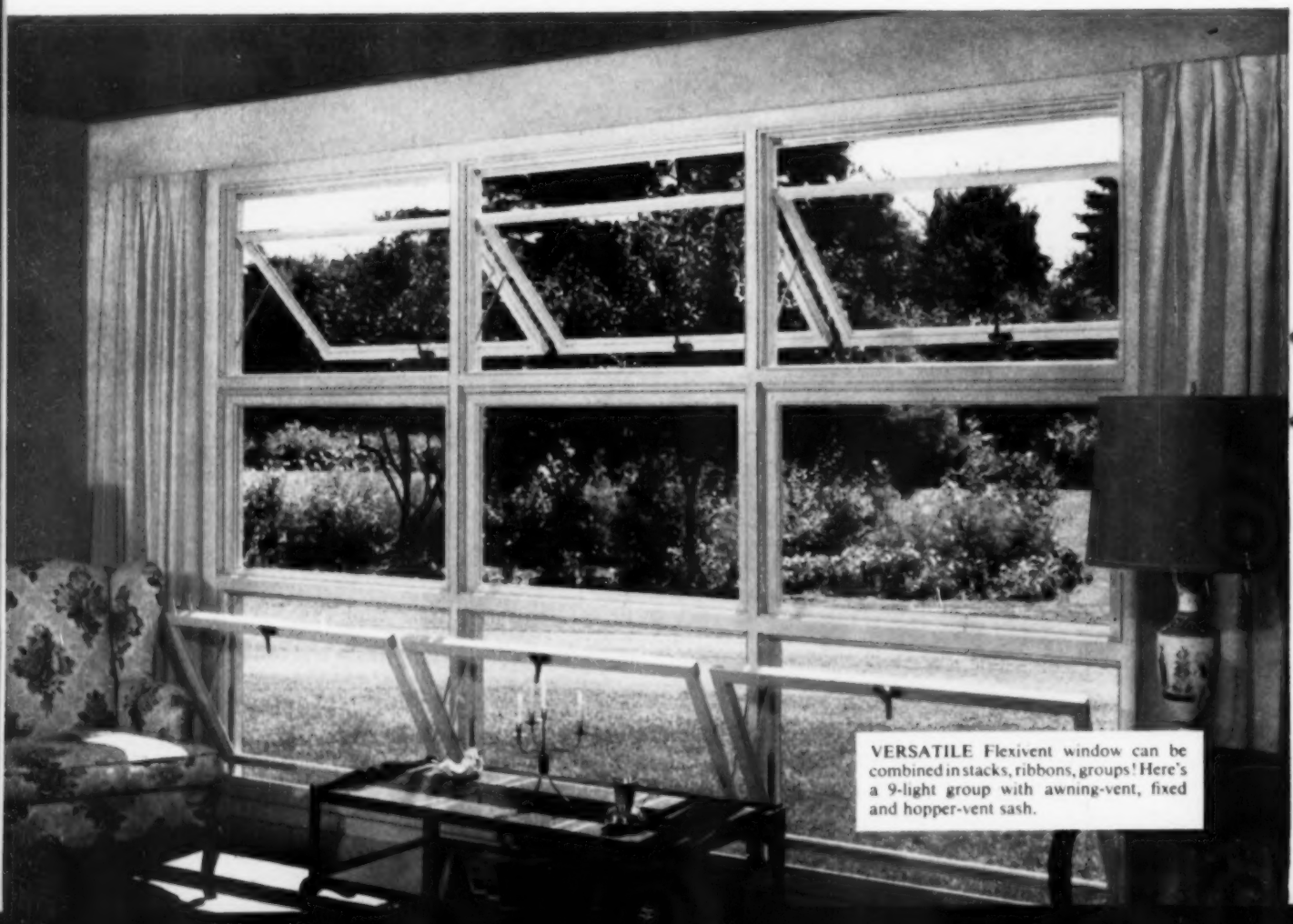
1. **HOPPER-VENT**—Sash swing inward with Flexivent in this position. Screen on outside means easiest operation. Note ample ventilation, yet no interference with drapes. Good protection during rains. Use hopper position for very low or very high ventilating windows.

2. **AWNING-VENT**—Highly popular new sash operation is highly practical, too. Excellent ventilation and protection during rain. Inside screen hinged for easy sash operation. Friction hardware allows sash to open nearly 90 degrees. Flexivent is an unusually weathertight awning window.



3. **CASEMENT**—Install Flexivent on end and you have an economical casement. Outswinging sash only. Choice of 3 sash operations or fixed sash is entirely up to you. So is the combination of Flexivents into ribbons, stacks or groups for a wide range of window effects.

Look! Use new Andersen *FLEXIVENTS*



VERSATILE Flexivent window can be combined in stacks, ribbons, groups! Here's a 9-light group with awning-vent, fixed and hopper-vent sash.

Here are 6 quality design features...
3 reasons for FLEXIVENT's economy

Here's why Flexivent is a superior ventilating window:

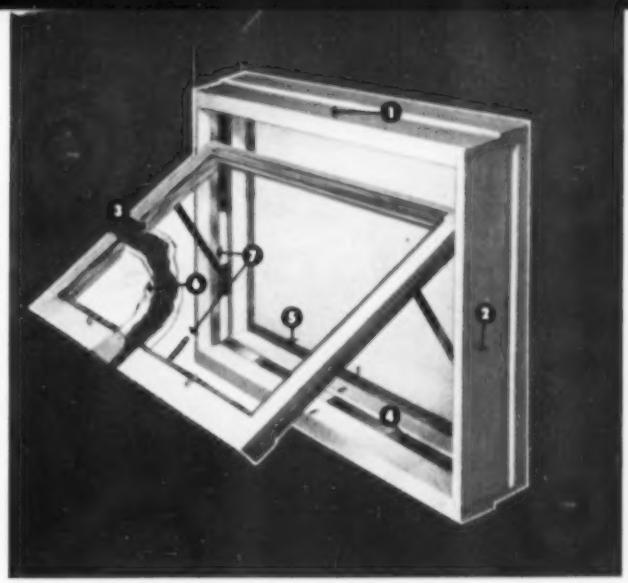
1. Wood parts of clear pine are accurately milled by Andersen. Toxic treated with preservative and water repellent solution.
2. Frame engineered for easy installation in three different positions. Gives three different sash operations.
3. Quality glass bedded in elastic glazing compound. Clamped in new groove glazing for improved appearance and weathertightness.
4. Sash contact with weatherstrip and frame on four sides gives remarkable weathertightness.
5. Choice of wood or aluminum screen.
6. Double glazing panel in aluminum frame always fits on *outside*.

Here's why Flexivent is an economy window:

7. Simple hardware, including sliding hinge-adjusters, gives excellent operation at low cost.
8. Complete unit easy to assemble into groups, economical to install and trim out.
9. Note clean design and engineering which simplify manufacture and assembly. No stops, no complicated hardware. It all means savings which are passed on to the Flexivent customer!

Andersen Corporation • BAYPORT, MINNESOTA

Write for Detail Catalog or Tracing Detail File; or see Sweet's Files for specification data. WINDOWALLS sold by lumber and millwork dealers.

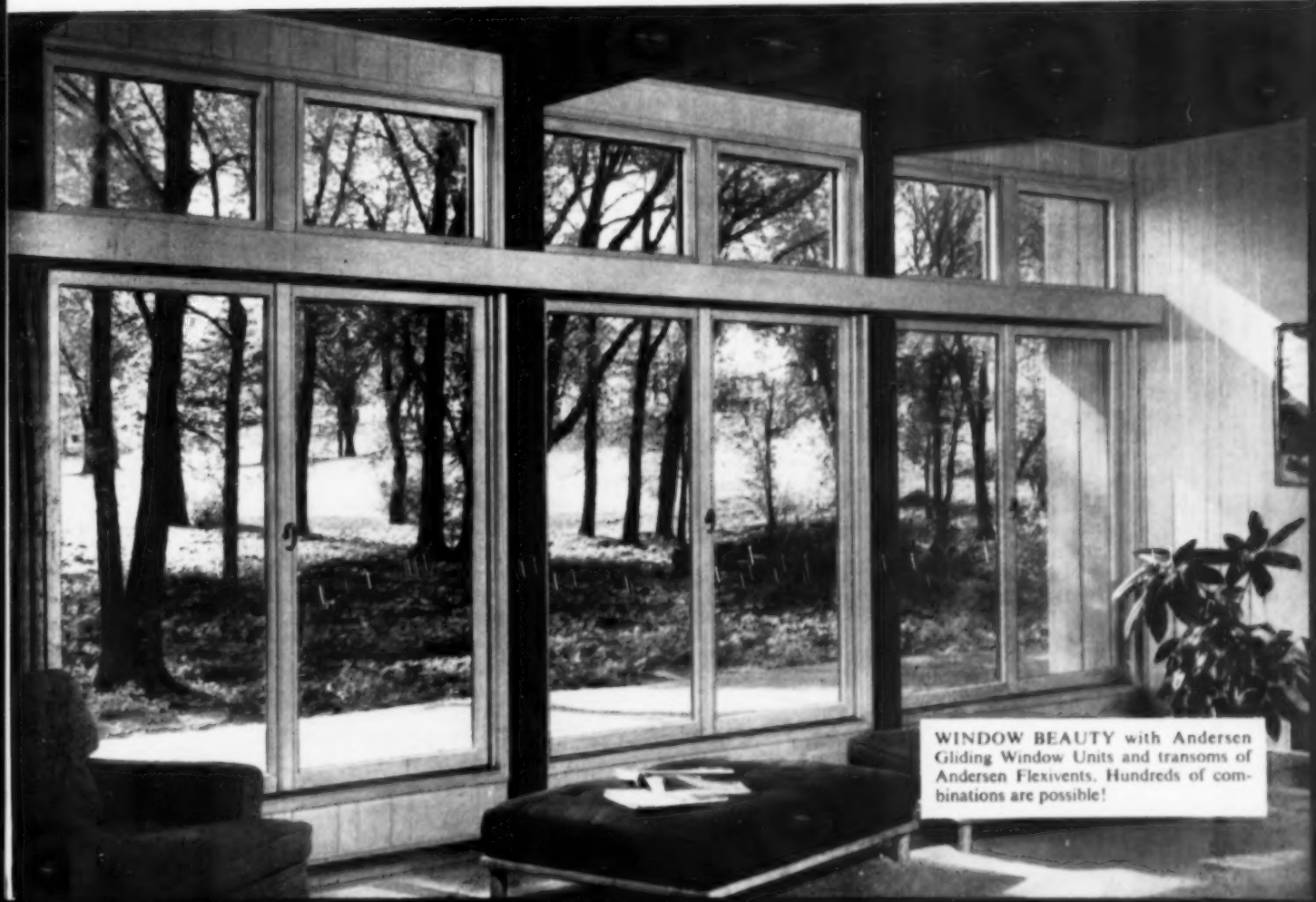


ANDERSEN *Windowalls*

TRADEMARKS OF ANDERSEN CORPORATION

WINDOW SPECIALISTS FOR 50 YEARS

hundreds of ways—at low cost, too!

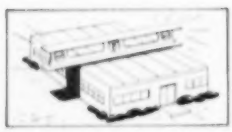


WINDOW BEAUTY with Andersen Gliding Window Units and transoms of Andersen Flexivents. Hundreds of combinations are possible!

Smooth-surfaced asbestos roof
FOR DEAD-LEVEL DECKS!

The Johns-Manville Flexstone Special Built-up Roof

NO SLAG - NO GRAVEL



The J-M Asbestos FLEXSTONE* SPECIAL Roof has been developed for decks from dead level to ½" incline per foot. This new Flexstone specification uses coal tar roofing pitch as the cementing agent. It is the result of extensive experimentation in the Johns-Manville Research Center and years of successful tests in the field. Now for the first time you can have the advantages listed below on a flat or nearly flat roof deck construction.

1. **No gravel or slag**—cuts down excess weight and saves labor costs!
2. **Smooth-surfaced** to afford good drainage and make maintenance and alterations easier!
3. **Asbestos**—J-M Flexstone Felts are made of fire, rot and weatherproof asbestos. They last longer and give more enduring protection.
4. **Won't dry out**—Because they are made of mineral asbestos, Flexstone Felts are unique in their resistance to the destructive effect of sun!

For added protection, the J-M Asbestile* System of Flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement for use with asbestos flashing felts to give thorough water-tightness. As it sets, Asbestile forms an integral part of the wall itself.

Flexstone Roofs are applied only by J-M Approved Roofers. For data on Flexstone Roofs and Asbestile Flashing Systems, send for folder BU-68A. Write Johns-Manville, Box 158, Dept. PA, New York 16. In Canada, 199 Bay St., Toronto 1, Ontario.

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*Reg. U. S. Pat. Off.

Johns-Manville FLEXSTONE* Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

Each general classroom in the new Windemere Blvd. Elementary School, Buffalo, has its own tiled toilet facilities.

TILE is teacher's pet

The whole school staff will thank you when you specify tile, whether you are remodelling or planning a new building. Specify American-Olean Tile, and you can have bright, cheery colors that keep right on being that way. Maintenance costs drop out of sight, because scrubbing, waxing, polishing, and repainting are things of the past.

Take advantage of A-O Tile's features wherever possible—but especially where the punishment is greatest. In laboratories and locker rooms, in washrooms and cafeterias, down halls and on classroom walls around chalk boards, American-Olean Tile will serve you well, because it's real clay tile!

American-Olean Tile Co.

Executive Offices: 947 Kenilworth Ave., Lansdale, Penna.

TILE SPECIFICATIONS FOR THIS UP-TO-DATE CLASSROOM: Color Plate 325. *Walls:* 21 Cornflower 6x6. *Toilet Walls:* 21 Cornflower 4¼x4¼. *Toilet Floor:* White Octagon, Azure Textone Dot.

FREE COPY OF BOOKLET 300 gives you many other helpful color photos of actual tile installations, and abundant color scheme suggestions and specifications. You can use the booklet as a guide wherever you specify tile. Send for your copy today.

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Please send me, without obligation, a free copy of your new Booklet 300.

Name .....
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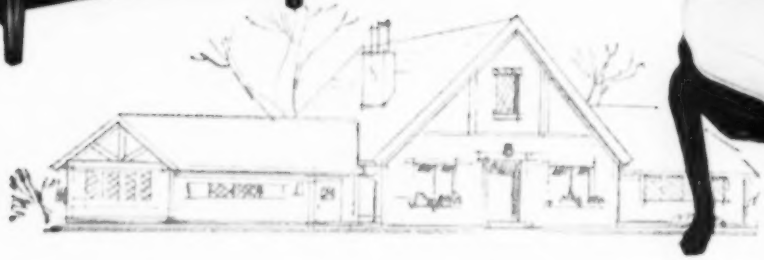
modern . . .

A Directional Design by Paul McCobb, mf'd by Custom Craft, Inc.

traditional . . .

No. 1681 Chair from the Hickory Chair Co., Hickory, N. C.



period . . .

Anzio Side Chair mf'd by S. J. Campbell Co., Chicago, Ill.

everyone wants the perfect comfort of

U.S. Koylon® FOAM *Cushioning*

. . . leading designers and manufacturers select U. S. Koylon Foam Cushioning for the ultimate in seating comfort!

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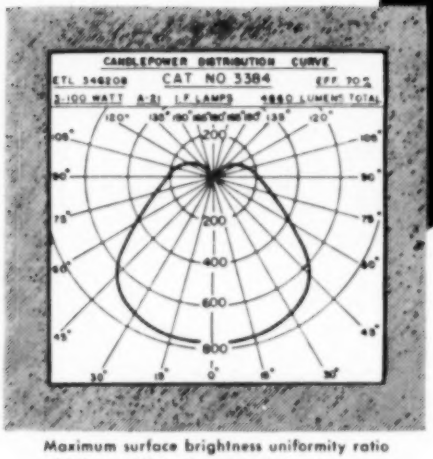
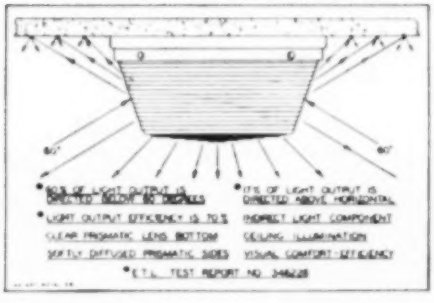
lens lighting in drum form

PATENT PENDING



Maximum surface brightness uniformity ratio of 1.2 to 1.00 in the normal viewing zone.


60°
60°
• 85% OF LIGHT OUTPUT IS CONTROLLED BELOW 80° ANGLES
• LIGHT OUTPUT EFFICIENCY IS 70%
CLEAR PRISMATIC LENS BOTTOM
SOFTLY DIFFUSED PRISMATIC SIDES
• 15% OF LIGHT OUTPUT IS DIRECTED ABOVE HORIZONTAL
INDIRECT LIGHT COMPONENT
CEILING ILLUMINATION
VISUAL COMFORT EFFICIENCY
• E.T.L. TEST REPORT NO. 348208

Specifically designed for multiple horizontal lamp operation, the clear lens bottom provides a widespread direct light distribution with no color distortion of the lamp light. The prisms on the sloping sides elevate light to the ceiling, adding the quality of indirect lighting. Available in two sizes.

The Lens Drum is but one of many advanced lighting elements in the new ART METAL catalog. Write for a copy.

THE ART METAL COMPANY

CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting

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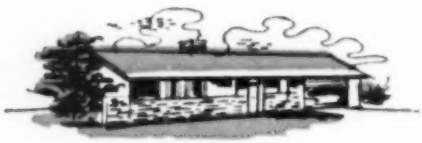
Mr. W. G. Underwood, leading Dallas builder now developing the "Preston Hollow" area of Dallas.

Mr. L. W. Prokop, leading Houston builder and president of Houston Home Builders Association.

Mr. R. W. Cabaniss, a leading builder of custom homes in and around Richmond, Virginia.



Mr. Emil Keen, noted Long Island builder now engaged in a 52-home development in Huntington, New York.

Mr. Marcel Robins, builder of luxurious homes in White Plains and Scarsdale, New York.

Mr. F. T. Ferrigno, now erecting 210 modern homes near Hartford (Tom-Lin Heights).

Mr. C. DiFelice, leading Pennsylvania builder now erecting 200 homes at King of Prussia, Pennsylvania.

Mr. John Larson of John E. Larson & Son, builders of modern homes in Pittsburgh and Mt. Lebanon, Pennsylvania.

RATE **COMMAND-AIRE TWINS**

YEARS MOST POWERFUL

SALES FEATURE!

The way Bryant's "Command-Aire" Twins are helping to sell homes for many of the nation's leading builders offers an opportunity for you. Specifically, it's year 'round conditioning that's . . .

20 to 35 per cent lower in cost!—to let you offer this one-time luxury feature in moderately priced homes—to mass market buyers. Moreover, you can offer . . .

Cooling initially, or later!—The "Twins" are independent heating and cooling units of matched design. Homeowners can install the furnace first (gas or oil) and add the twin cooling unit at their convenience. And you needn't worry about space because the "Twins" offer . . .

Unusually compact design! Using as little as 7⅔ square feet of floor space, you can tuck them away in a closet, alcove, utility room or basement.

Some of the many prominent builders already enjoying faster, more profitable sales with "Command-Aire" equipped homes are listed on the opposite page. Why not investigate "Command-Aire" advantages yourself. And ask about Bryant's supporting program to help you sell your homes. Contact your Bryant Distributor, or write: Bryant Heater Division, 17825 St. Clair Avenue, Cleveland 10, Ohio.

There's no place like home with a...

bryant®

HEATING • AIR CONDITIONING | WATER HEATING

Bryant's "Command-Aire" Twins include either a gas or oil furnace in any one of a complete range of sizes matched with a 2, 3 or 5-ton cooling unit.

Rockwell Report

NATIONAL
EASY TO EXTEND —

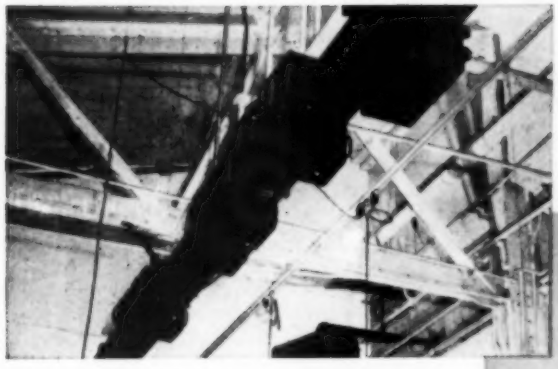
Rockwell Manufacturing Company, Pittsburgh, Pa. discovered early that National Electric "Plug-In" (IPI) Busway provides an *easily accessible and flexible* electrical distribution system. Manufacturers of gas and liquid measurement and control equipment, Rockwell reports their original "Plug-In" Busway system, in use for more than 10 years, was relocated several times at the Pittsburgh plant, then removed entirely and sent to other plants for installation. Yet the busway was "fully salvable and good as new, with no need of any kind of repair."

This flexibility and economy are the main reasons National Electric Busway was specified when production facilities were expanded about 2 years ago at the Pittsburgh DuBois Division. NE Busway now provides power for the many machines in the valve plate, press and machining lines, tool room and grinding department. Here's what Chief Electrician L. E. Johnston reports on the installation:

Rockwell Report

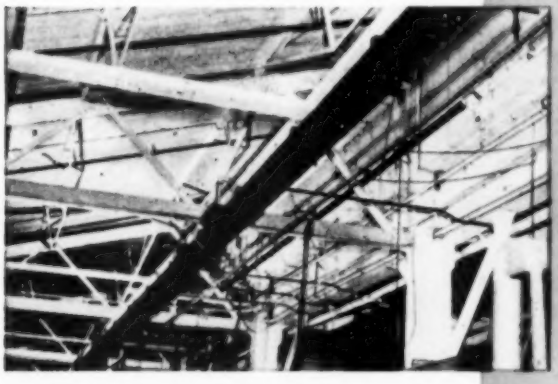
"The busway system was laid out with all foreseen extensions planned for. We've found, not only here at DuBois but in other of the Company's plants as well, that through the use of IPI, machines on the production line may be plugged in, disconnected, or relocated at any time without shutting down the production line. Also the fact that it can be extended, or relocated, as production requirements change, is as big an advantage as the fact that every foot of the bus is usable. Long tap runs are eliminated through the fact that feed-in and tap-off fittings, with plug-in openings staggered on two sides of IPI lengths, permit insertion of devices convenient to equipment."

ELECTRIC BUSWAY... IS...
EASY TO RELOCATE— *Completely* SALVABLE

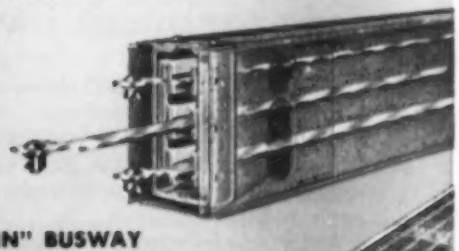


PLUG-IN DEVICES on National Electric IPI Busway provide completely flexible power to grinding room.

PROVISION FOR ELECTRICAL EXPANSION at Pittsburgh DuBois Division is made through "tees" from main runs of National Electric Industrial Feeder Busway, directed towards bays in plant where additional manufacturing machinery will be located. Run shown in this picture is 800-ampere, 3 phase, 230-volt A.C.

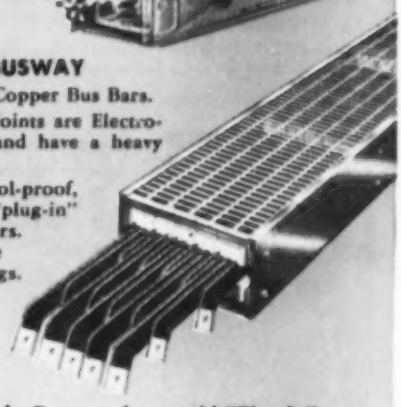


NATIONAL ELECTRIC "PLUG-IN" BUSWAY permits plugging-in, disconnection or relocation of machines in tool room production line, without shutting down entire line while work is in progress.



"PLUG-IN" BUSWAY

- Rolled Edge Copper Bus Bars.
- All Bus Bar Joints are Electro-silver-plated and have a heavy coat of silver.
- Simplified, fool-proof, sliding type "plug-in" opening covers. No removable parts or springs.



"LO-LOSS" FEEDER BUSWAY

- "Lo-Loss" Feeder Busway—for use with "Plug-In" Busway—designed for transmission of electrical current up to 4000 Amperes at 600 Volts or less.

Write for complete details

Listed by Underwriters' Laboratories, Inc.

EVERYTHING IN WIRING POINTS TO

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3 Plants • 7 Warehouses • 34 Sales Offices

Why Honeywell Customized Temperature Control is a wise investment for apartment owners

Increased "rentability" will be an important factor in the years ahead

Lots of sun, fresh air, room for children to play—these all appeal to tenants at Meadowbrook Apartments, a garden apartment development in Indianapolis, Indiana.

And so does Honeywell Customized Temperature Control that gives each tenant *individual temperature control*, an advantage unfortunately not enjoyed by many apartment dwellers.

For at Meadowbrook there's a thermostat in each and every apartment.

When you talk to tenants about the heating system and the individual temperature control they enjoy, they agree both are the best they've ever known, that they're equal to what you find in the finest private homes.

And the resident manager of Meadowbrook, Henry C. Dickson, feels that Honeywell Customized Temperature Control definitely helped increase "rentability" at the time the buildings were finished.

What's more, he feels Honeywell Customized Temperature Control will give him a definite competitive advantage, tenant-wise, for years to come.

The Honeywell Thermostat in the typical apartment at right is located on the wall between the living and dining areas. Individual thermostats give each tenant *his own* temperature control as he wants it and when he wants it. Result: comfortable tenants. And comfortable tenants are satisfied tenants.

For Comfortable, Even Temperature in New or Existing Buildings—of Any Size, Use Honeywell Customized Temperature Control

Whether it's an apartment, office, store, factory, school, garage—or any size building—new or existing Honeywell Customized Temperature Control can help meet your clients' heating and ventilating problems.

Once equipped with Honeywell Customized Temperature Control, they'll have an ideal "climate"—and save fuel besides.

For full facts call your local Honeywell office. There are 104 across the nation. Or mail the coupon today.

Architect J. Lloyd Allen, above, of Allen and Kelley, Indianapolis, looks on as designer R. K. Zimmerly describes how Honeywell Customized Temperature Control helped solve a knotty exposure problem. The model shows clearly the varied exposures of Meadowbrook's 37 buildings, its 647 one- and two-bedroom apartments that are located on the 50-acre tract.

Meadowbrook was designed to give families all the convenience and comfort of apartment life, yet retain many advantages normally available only in private homes.

"It's no trouble at all when it comes to maintenance," says William D. Gill, Meadowbrook's superintendent of buildings and property.

"Tenants are happy with Honeywell Customized Temperature Control because it gives them individual comfort. But for my money it's ideal because it requires very little maintenance."

MINNEAPOLIS
Honeywell

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. PA-7-168, Minneapolis 8, Minnesota

Gentlemen:

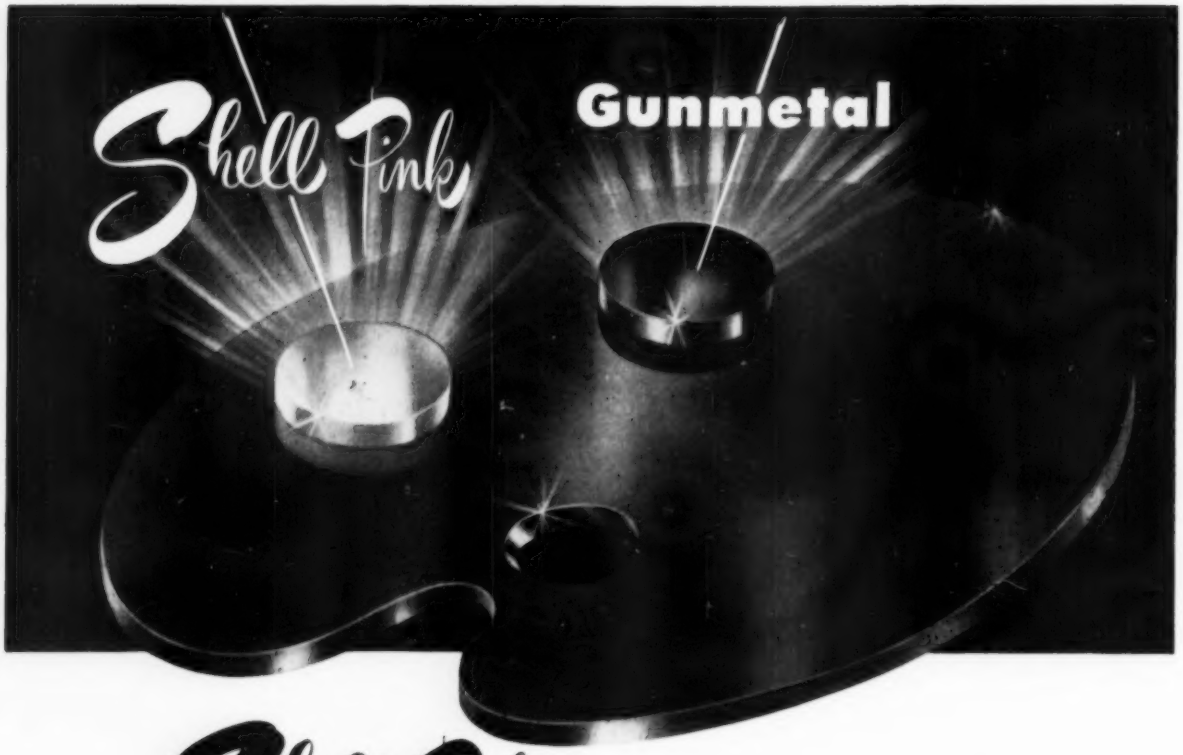
I'm interested in learning more about Honeywell Customized Temperature Control.

Name .....

Firm Name .....

Address .....

City ..... *Zone* ..... *State* .....



Shell Pink *and* Gunmetal

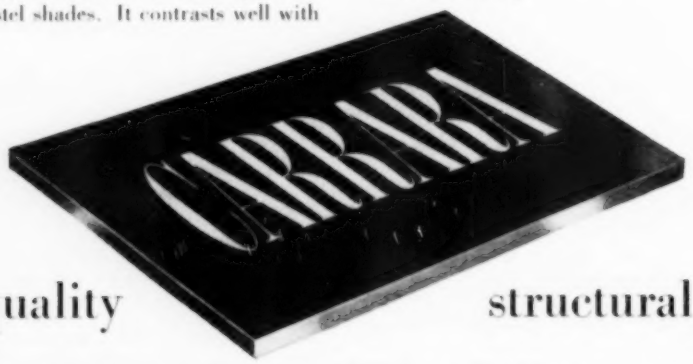
two new colors added to your Carrara palette

TO GIVE the architect even greater design possibilities with Carrara, two new colors have recently been put into production. With Shell Pink and Gunmetal — the complete Carrara color line includes — Ivory, Tranquil Green, Forest Green, Gray (light), Rembrandt Blue, Wine, Black and White.

Shell Pink is a light, delicate shade designed to blend with soft pastel shades. It contrasts well with white and with many stronger, deeper colors.

Gunmetal is a rich, sophisticated color approaching black. It has the distinct advantage of having deep blue-gray as a base color making it ideal for use in combination with many other colors.

Additional facts on Carrara are contained in Sweet's Catalog.



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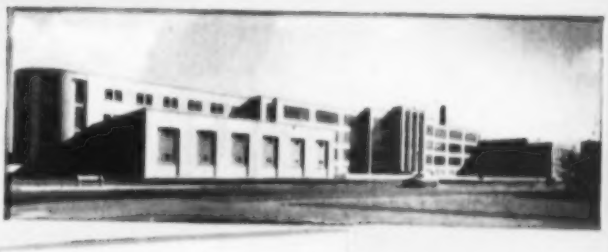
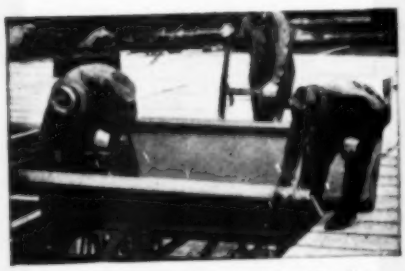
University of Wisconsin Memorial Library. Archts. Roger C. Kirchoff and Eugene W. Phillips. Contrs. Gust K. Newberg Construction Co.



Maria High School, St. Casimir Academy, Chicago. Archts. Harmann J. Gaul & Son. Contrs. George Sollitt Construction Co.

Nailing slate or other ornamental covering directly to Featherweight Concrete Nailing Slabs . . . takes nails easily and holds them firmly.

University of Minnesota, Mayo Memorial Medical Center. Archt. and Engr. C. H. Johnston. Contrs. Steenberg and Madsen Construction Companies.



Laying Featherweight Channel Slabs. After the joints are cemented your Federal Roof Deck is immediately ready for the composition covering.

Illinois Institute of Technology, Chicago. Architect Ludwig Mies van der Rohe. Associated Architects, Friedman, Alschuler & Sincere, Chemistry building (left)—Holabird & Root & Burgee, Metallurgy Building (right). Contractor (both buildings), Dahl-Stedman Co.

ANY BUILDING, INSTITUTIONAL OR INDUSTRIAL, IS A BETTER BUILDING UNDER A FEDERAL ROOF

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For The Newest Features

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KEY-CONTROL...

...ends locker handle maintenance!

The traditional handle has been eliminated from this latest Berger locker. There's no handle maintenance. Door fronts are smooth and flush with no projections of any kind to invite noise.

Since the key serves as the handle, a Key-Control Locker system encourages everyday use of locker keys. Door pre-locks when key is removed, and locks automatically when closed. Your school clients are assured of locked protection for students' personal property at all times.

Here is more evidence that you always can look to the world's leader in lockers for the newest features. See Sweet's Architectural File, or write us direct for complete details about Key-Control and standard steel lockers. This completely new addition to the big Berger Steel Locker line is another *exclusive* development—*only Berger offers you handle-free Key-Control Steel Lockers!*

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REPUBLIC STEEL CORPORATION
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AUTOTRONIC®

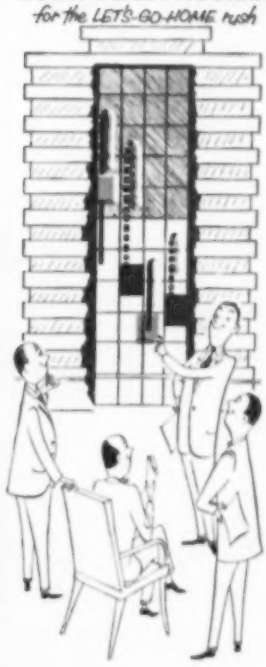
Without Attendant

ELEVATORING

SPEEDS
THE
HOME-RUSH
TRAFFIC

Pleasantly surprises the once "forgotten man"

DOWN-PEAK PROGRAM
for the LET'S-GO-HOME rush



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TO
TRAFFIC
CHANGES

Autotronic—WITHOUT ATTENDANT—Elevatoring empties a building quickly with an "electronically versatile" Down-Peak program. Cars are time-dispatched from the upper terminal; and instant-dispatched from the lower terminal. Delayed up cars are reversed at their highest calls. When filled, down cars are expressed to the lobby by an automatic weighing device. All, to reduce round-trip time.

If lower floor traffic builds up, an electronic waiting-time totalizer initiates "zone return" operation. The building is divided into a high and a low zone. High-zone cars on down trips continue to answer calls until filled. They also answer all up calls. The low-zone cars concentrate entirely on down traffic. All cars reverse at their highest calls. When traffic evens off, cars are again time-dispatched from the upper terminal.

All through the Down-Peak program, the by-passed calls of the once "forgotten man" are timed and answered promptly by specially dispatched cars.

Autotronic—WITHOUT ATTENDANT—Elevatoring saves up to $7,000 a car, each year. 6 automatic programs operate the cars as a coordinated group. Program selection can be supervised by the starter; or, as an optional feature, made completely automatic. Diversified traffic can be handled in large, or small, office buildings, hotels, and hospitals. Ask any of our 266 offices about new or modernized installations. Otis Elevator Company, 260 11th Avenue, New York 1, N.Y.

BETTER ELEVATORING IS THE BUSINESS OF OTIS

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What a world of difference there is in a Nailer Joist that's ALL STEEL. A joist that grips nails like a steel vise. A joist ready to use the moment it arrives at the job whether it supports a hardwood floor in a home, a concrete slab, plywood under linoleum, pre-formed roofing planks or metal centering of any kind. Just specify Macomber Nailable Steel Joists for your load and span from 4 to 44 feet and see what advanced engineering can do to construction costs. Do you have our 1953 Catalog?

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• ENGINEERING • FABRICATING AND ERECTING •

here's the *Automatic* answer for securing COMFORT and ECONOMY in schools...

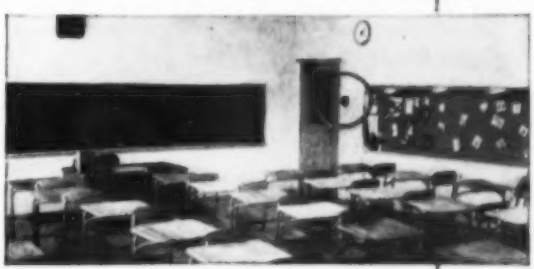
JOHNSON *DUAL temperature* CONTROL

Endwell Junior High School, Endwell, New York. A. T. Lacey & Sons, architects; St. John, Platt & Carlson, mechanical engineers, both of Binghamton, N.Y.; Evans Plumbing & Heating Co., heating contractors, Endicott, N.Y.

Across the continent, well-planned schools, like Endwell Junior High School at Endwell, N.Y., are equipped with Johnson *Dual* Temperature Control, the pioneer two-temperature system. Johnson *Dual* is the answer to the problem of heating, to normal occupancy temperature, those rooms which are in use after regular school hours. And, in most school buildings today, some areas are in use during late afternoon and evening hours.

Heating the entire building, when it is only partly occupied, wastes fuel. The installation of separate heating mains for various sections of the building is expensive and inflexible. Johnson *Dual* Control allows each room or group of rooms to be heated as needed. At Endwell, *Dual* Thermostats in classrooms are interconnected in four groups while the auditorium and gymnasium sections each form a separate group. Thermostats, in a group where the rooms are not to be used, are set to operate at a reduced, non-occupancy temperature, from a switch on a central panel. If it is desired to occupy a single room, or two, merely pushing a button on the *Dual* Thermostat provides normal, occupancy temperature.

Johnson *Dual* Temperature Control is not limited to new buildings. It may be installed also in existing buildings, regardless of whether or not an ordinary system of automatic temperature regulation is already in use. Conversion to Johnson *Dual* is easy. Why not ask a Johnson engineer from a nearby branch office for recommendations, so that *your* buildings may have the advantage of money-saving, modern heating efficiency? JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.



At Endwell Junior High School, 67 Johnson Dual Thermostats provide "Proper Sequence" Control for Johnson Valves on convectors and, through Johnson Submaster Airstream Thermostats, for Johnson Valves and Damper Operators in unit ventilators.

T-335 Submaster Airstream Thermostat

V-111 Unit Ventilator & Convector Valve

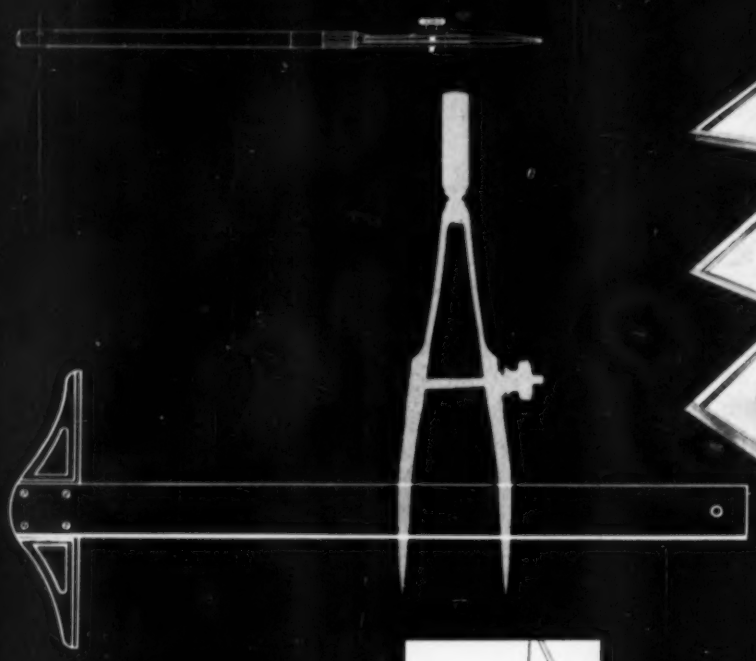
D-104 Unit Ventilator Damper Operator

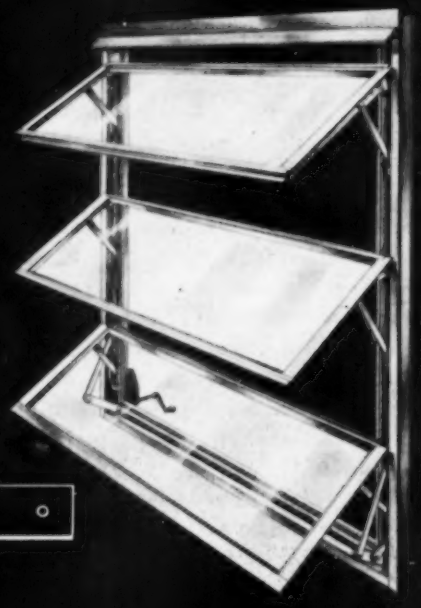
JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

MANUFACTURE • APPLICATION • INSTALLATION • SINCE 1885

designed to meet your specific requirements

ALL-ALUMINUM MIAMI WINDOWS





All-aluminum Miami Windows provide you, the architect, with the widest possible scope in design; for Miami Windows are made to any dimensions up to 6'2" wide and to any height. Special types—Crown, Gothic or Clerestory, windows with or without hopper vents may be specified. All windows are standard, modular or custom size...Whatever your building design, there's an all-aluminum Miami Window to meet your specific requirements. Get the full facts—today!

QUALITY APPROVED A.A.I.A.

Pittsburgh Testing Laboratories Air Infiltration Tests 0.069 C.F.M. per lineal foot of crack perimeter at 25 MPH.

For further information write, wire or phone Dept. PA-7 or see Sweet's Architectural File 3c/Mi

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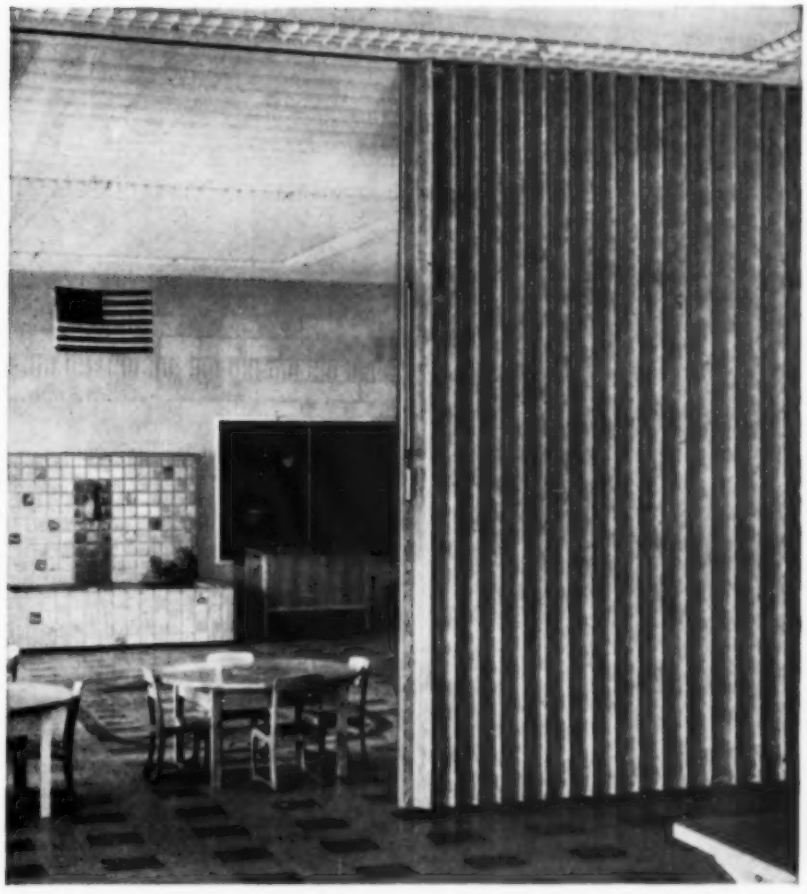
How many classrooms are enough?

That's a mighty tough question to answer today. Many schools, however, solve this lack-of-space problem by using "Modernfold" doors as "movable walls" to make their present rooms do double duty.

For example, note how simple it is here to make two rooms out of one. You just close the large "Modernfold" door. Then . . . when group activities demand a large single room . . . you just fold the "Modernfold" door back on itself, out of the way.

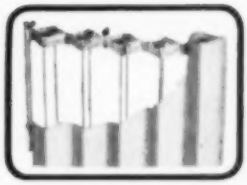


Your ideas come to life . . . for life with "MODERNFOLD" doors

Whether you need *floor plan flexibility* . . . or want to use the space that swinging doors waste . . . specify "Modernfold" —the original folding door. No other folding door *anywhere* equals "Modernfold" doors for quality of design . . . for quality and strength of materials . . . for *completeness of line.*

Regardless of how your room division or door closure problems may vary . . . you get exactly what you want when you specify "Modernfold" doors —your guarantee against client complaint. For on their performance record alone, "Modernfold" doors look better, operate easier, last longer.

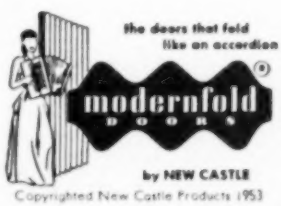
Better Looking
Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



Easier Operating
Balanced pantograph hinge construction at both top and bottom; trolleys attached at hinge instructions. No sidewise twist or pull possible.

Longer Lasting
More steel hinges both top and bottom; more steel in each hinge; two vertical steel rods welded to each hinge assembly.

YOU CAN'T GET MORE IN A FOLDING DOOR



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Please send me full details on "Modernfold" doors.

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City ..... County ..... State .....

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it takes 'em about 2 years...

to establish a door closer's R.P.P.* factor

How a door closer functions in a lab, or when newly installed . . . well that's just theory. You only get an honest, practical demonstration of performance and durability . . . *after* a year or two of the gruelling punishment this heedless "public" will give them. Here's a way to be SURE before you specify . . . check the history and present condition of closers that have been in action at least a year. You'll be surprised at the difference so short a test can make.

35 and 40 year old installations of **RIXSON Concealed Heavy Duty Door Closers** (some in busy theater lobbies) are still functioning smoothly . . . requiring only a minimum of maintenance through the years. Back your judgment and reputation with 53 years experience in manufacturing mechanized hardware for public use . . . specify **RIXSON** by name and number.

**Resistance to Public Punishment*

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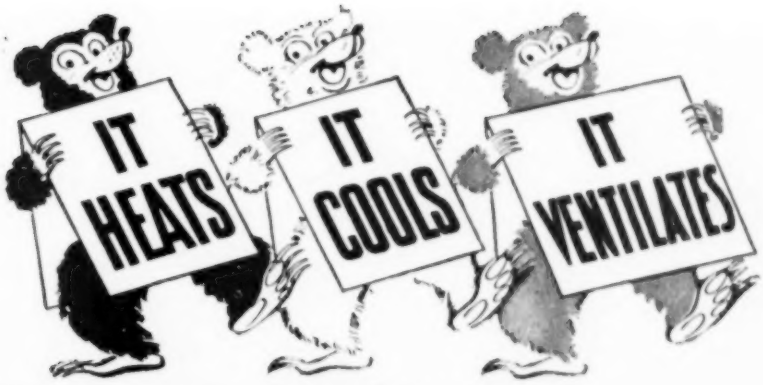

Yes, Modine Cabinet Unit gives you ALL 3!

TYPE FF for heating only. Basic unit designed for exposed or recessed installation. Floor, wall or ceiling mounting.

TYPE BT for heating, cooling (in floor-mounted position), ventilating, with or without ducts. Floor, wall or ceiling mounting.

IF you need economical equipment for heating, cooling and ventilating—and the expense of unit ventilators or air conditioners is not warranted—you'll find the perfect answer in Modine's newly expanded line of Cabinet Units.

Here, in a single unit, you can get quick, positive, quiet distribution of heated or cooled air . . . with or without ducts. Inexpensive accessories permit introduction, filtering, heating and distribution of fresh outside air for ventilation.

Whether it's new construction or modernization work—Modine Cabinet Units harmonize perfectly with any interior. You can choose from five different models—some for heating with steam or hot water only . . . others for heating plus cooling with chilled water.

Next time you have a heating application for commercial, institutional or public buildings—check Modine Cabinet Units. They're the low-cost answer to year 'round comfort.

Modine CABINET UNITS

Tear out coupon and mail today for your free copy of 28-page, profusely illustrated Bulletin 552. Or see your Modine representative listed in your classified phone book.

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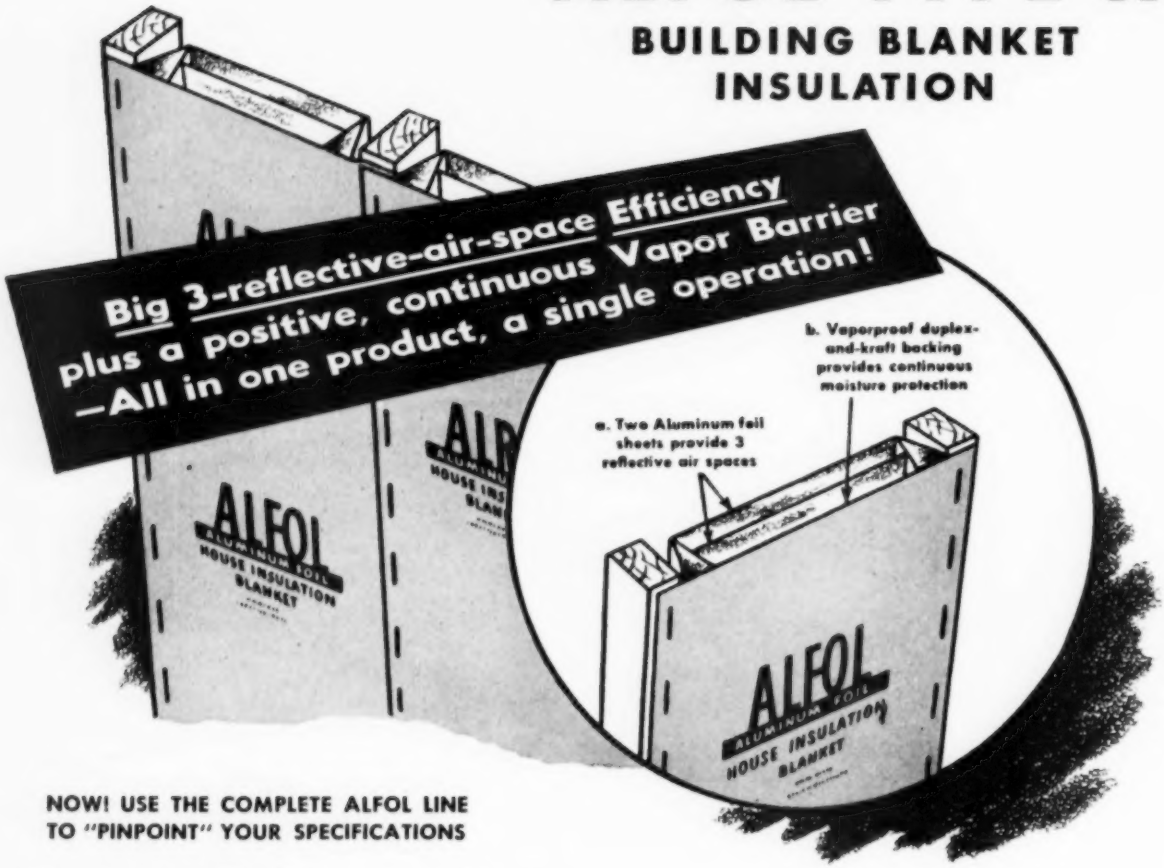
ALFOL TYPE II

BUILDING BLANKET INSULATION

Big 3-reflective-air-space Efficiency plus a positive, continuous Vapor Barrier —All in one product, a single operation!


a. Two Aluminum foil sheets provide 3 reflective air spaces
b. Vaporproof duplex-and-kraft backing provides continuous moisture protection
ALFOL
ALUMINUM FOIL
HOUSE INSULATION
BLANKET

NOW! USE THE COMPLETE ALFOL LINE TO "PINPOINT" YOUR SPECIFICATIONS

ALFOL Type IV—Four reflective air spaces for the utmost in thermal and vapor barrier efficiency.

ALFOL Type III—Three reflective air spaces—ideal for crawl space work, "exposed" ceilings.

ALFOL Type I—Two reflective air spaces—Low cost efficiency, ideal for mild climate use.

ALFOL Type IA—Two reflective air spaces—specially designed for masonry construction.

Here's B-I-G insulation value in a clean, compact "package"—ALFOL Type II. Just 2 aluminum foil sheets and a heavy kraft-and-duplex backing. Yet on down-flow heat, for example, its thermal value surpasses that of even *full-thick* bulk materials! (Authority: U. S. Bureau of Standards.)

And that heavy vaporproof backing, by which ALFOL is applied across stud or joist faces, provides a positive, *continuous* vapor barrier . . . the finest condensation "insurance" obtainable.

Application is rapid, positive: the aluminum foil sheets space themselves automatically. And ALFOL usually costs less! No wonder it's becoming America's "most-specified" insulation—for commercial, industrial *and* residential use.

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"FIRST IN REFLECTIVE INSULATION"

REFLECTAL CORPORATION
A Subsidiary of Borg-Warner
155 EAST 44th ST. NEW YORK 17, N. Y.

St. Mary's High School, Phoenix, Ariz.—Lescher & Mahoney, architects

On Main Floor, Balcony... All Around the Gym

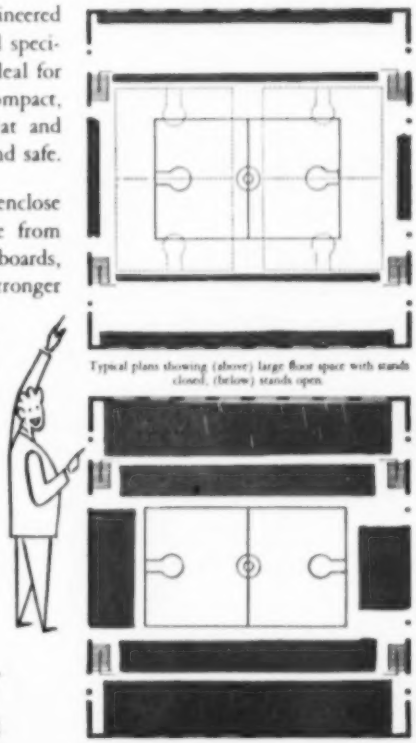
Universal *Roll-A-Way* Stands Assure Safe and Comfortable Seating *Plus Valuable Extra Floor Space* Whenever Needed

With today's building costs at such high levels, the plans for any gymnasium should provide maximum seating facilities and maximum useable floor space in minimum area. Such requirements often seem "impossible" to meet, yet they are actually easy... the *Universal* way!

The modern gymnasium illustrated above is a good example. With *Universal* Roll-A-Way Stands on both main floor and balconies, ample seating facilities are provided for basketball games and other school events. But, when not in use, these stands may be rolled back to the walls on both levels... providing approximately *5,000 feet more floor space* for practice courts and other gymnasium activities. Carefully engineered and custom built to meet individual specifications, Roll-A-Way Stands are ideal for large capacity or small. They are compact, yet roomy and comfortable... neat and attractive... exceptionally strong and safe.

Improved vertical filler boards enclose Roll-A-Way's entire understructure from front view, add more rigidity to seat boards, make the complete stands even stronger and more substantial. Because of their centered positions, these filler boards do not interfere with spectators' leg room... permitting feet to be drawn back under seats in normal positions. Comfort is assured!

Investigate Roll-A-Way Stands today. Write for latest catalog, list of *Universal* installations, and working scale blueprints of two-level seating.



Typical plans showing (above) large floor space with stands closed, (below) stands open.

UNIVERSAL BLEACHER COMPANY

809 SOUTH NEIL STREET • CHAMPAIGN, ILLINOIS

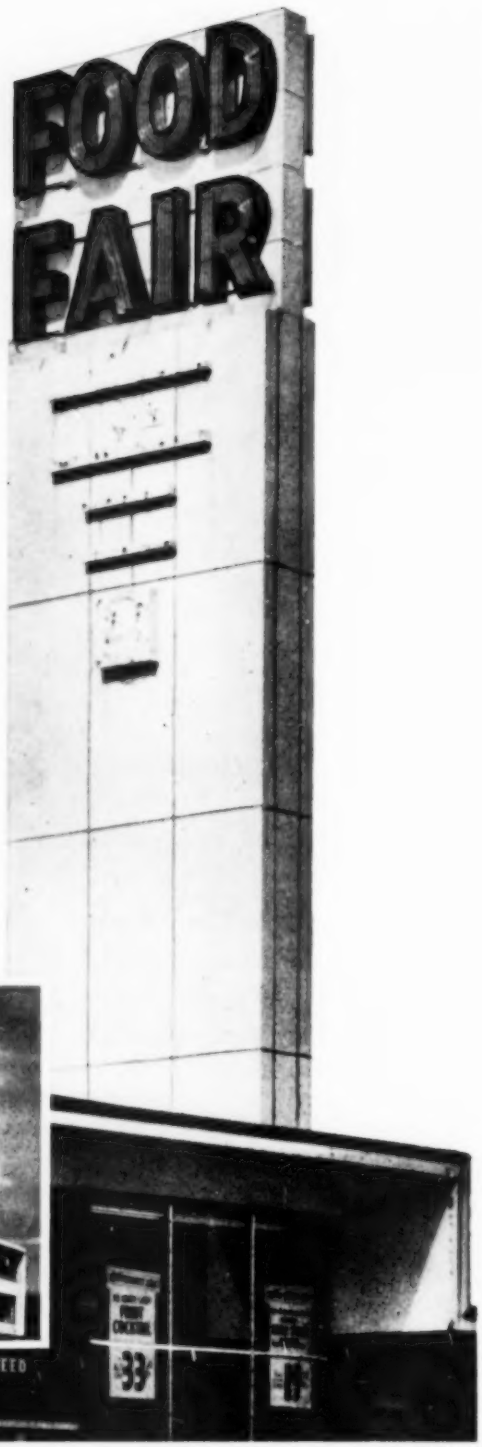
SHOPPING CENTER GETS A BARGAIN

Pre-cast concrete facing slabs give inviting appearance at low cost

There's good, sound planning behind the use of sparkling white architectural concrete facing slabs in this modern shopping center to help attract customers. Enduring, clean-cut beauty is achieved with pre-cast panels made with special aggregates in a matrix of Atlas White Cement. The large, easily placed units facilitate design, reduce construction time and labor, and speed occupancy. Durable architectural concrete also means a minimum of future maintenance.

More and more architects are specifying versatile facing slabs made with Atlas White Cement for commercial structures. Such pre-cast slabs offer the utmost in design flexibility . . . are tailor-made with appropriate aggregates and pigments to secure the color, texture and form desired. Atlas White Cement is a true, uniform white that enhances the rich color values of both pigments and aggregates . . . it is preferred by slab manufacturers.

Atlas White Cement complies with ASTM and Federal Specifications. For further information see SWEET'S Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Ave., New York 17, N. Y.



LARGE architectural concrete facing slabs minimize the cost of pointing and setting . . . provide built-in beauty, too. Slabs in shopping center were made with Atlas White Cement and exposed quartz aggregate.

* * *

Linwood Park Shopping Center, Fort Lee, N. J.
Architect: Max Simon, New York, N. Y.
Contractor: Sarner & Solow, Fort Lee, N. J.
Pre-cast slabs by The Dextone Co., New Haven, Conn.

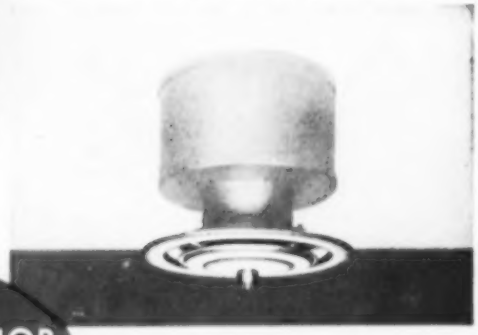
FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

PA-WCSI-62

AIR CONDITIONING SYSTEM for Hutzler's Towson has a total capacity of 500 tons of refrigeration, with an air supply of 100,000 cu. ft. per minute. Air enters the Kno-Draft Diffuser through a perforated cylinder that induces a pressure drop. A simple adjustment screw in the center plate of the diffuser readily positions the piston in the damper—controlling the number of perforations through which the air must pass, thereby regulating the volume discharged. System engineered by Henry Adams, Inc., Baltimore, installed by Carrier Corp., Philadelphia, Pa.



● Department store air conditioning calls for extreme flexibility. Shifts in store layout are frequent and unpredictable, and the air diffusers, wherever located, must be readily adaptable to needed air changes. So—

For Hutzler's Towson, a branch store of Hutzler Brothers Co., Baltimore, a special Kno-Draft High Pressure Air Diffuser was developed. This permits the air to be distributed through small uniform-size pipelike ducts at high pressures and velocities, and diffused through conventional flush-mounted diffusers installed in a hung ceiling.

These special Kno-Draft High Pressure Air Diffusers permit air supply in any given area to be changed without unbalancing the air delivery of the other outlets. The air, in effect, is "metered." And this is done without creating any objectionable noise, and for a cost comparable to a conventional system of the same capacity.

For a more detailed description of this unique method of high pressure air distribution, simply mail us the coupon. Connor Engineering Corporation, Danbury, Connecticut.

CONNOR

kno·draft ®

adjustable air diffusers

see our catalog in ARCHITECTURAL FILE or write for copy

CONNOR ENGINEERING CORPORATION

Dept. V-73, Danbury, Connecticut

Please send, without obligation, your bulletin describing the NEW Kno-Draft Adjustable Air Diffuser for high pressure air distribution.

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Company _____

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ACOUSTONE is the original fissured acoustical tile. It is incombustible and has high light reflection. Its beauty and high sound absorption provide the finest in sound control. MOTIF'D* ACOUSTONE Tile is also available in a wide variety of exclusive patterns.

USG

Reg. U.S. Pat. Off.

UNITED STATES GYPSUM

speed up construction

hold down costs . . . with the NEW

ACOUSTONE* E-Z-S SYSTEM

PROVIDES EASY ACCESS AT ANY POINT TO AREAS ABOVE CEILING

A new method for the mechanical suspension of ACOUSTONE Mineral Acoustical Tile, the E-Z-S System offers economy and beauty in sound control, combined with accessibility to services above.

ACCESSIBILITY—Tiles can be removed and replaced easily, permitting easy maintenance services above the ceiling.

ADAPTABILITY—Ideal for new construction and for lowering ceilings in existing buildings. Simplifies installation of lighting, air conditioning ducts, conduits and plumbing.

SOUND ABSORPTION—Provides unusually high sound absorption at critical frequencies for difficult sound conditioning problems.

ECONOMY—Tile is installed quickly without nails or adhesive, eliminating costly ceiling construction.

Sound control is a job for experts. For assistance in planning and complete drafting details, contact your nearby USG Acoustical contractor; or write United States Gypsum, Dept. 136, Chicago 6.

*T. M. REG. U. S. PAT. OFF. FOR ACOUSTICAL TILE

UNITED STATES GYPSUM

the greatest name in building

Architectural Weldwood

. . . from the Nations of the World —for the

UNITED NATIONS BUILDING

On the right you see an interesting application in the United Nations building of American walnut Weldwood and matching Weldwood Fire Doors. The facing veneer for the doors came from the same flitch used for the attractive paneling.

Exotic golden narra Weldwood paneling from the Dutch East Indies lines the entrance of the General Assembly Hall of the United Nations.

Among the types of Weldwood paneling in the United Nations building are Figured Korina from the Belgian Congo and walnut from America. Woods from many nations are represented and include birch, oak, prima vera and lacewood.

Rich-figured blond Korina® Weldwood from the Belgian Congo with matching Weldwood Fire Doors adds distinctive beauty to this office of an Assistant Secretary General. Korina is offered exclusively by United States Plywood.

In the office of the President of the U. N. General Assembly is this handsome example of American walnut Weldwood. The Weldwood Fire Doors are also faced with walnut veneer. All Weldwood in the U. N. is fire resistant.

Weldwood paldao Paneling with matching Weldwood Fire Doors makes a beautiful wall in the conference room of one of the Assistant Secretaries General of the United Nations. This striking wood comes from the Philippine Islands.

When plans call for rich beauty and distinction there are over 100 fine Weldwood Hardwoods from which to choose

The trend is towards genuine wood wall paneling and away from ordinary wall surfaces that need frequent redecoration. Architects are increasingly turning to the rich beauty and quiet dignity of wood, and are specifying Weldwood architectural grade hardwoods for the finest installations in offices, institutions, government buildings, stores and fine homes.

A great many varieties of Weldwood Hardwoods in a number of sizes and constructions are available. The assortment includes a vast selection of woods in the superb Algoma grade. These panels are in stock in our many warehouses, as are doors in many of these woods.

When sequence-matched panels are required, they can be made to order from veneer flitches selected by the architect; in the case of some woods such sequence-numbered panels are frequently carried in stock. When custom-made panels are ordered, it is possible to obtain doors from the same flitches, and therefore have a completely matched installation of doors and paneling.

Weldwood Architectural Paneling can be obtained with *fire-resistant* cores, carrying the Underwriters' Label.

Through United States Plywood's nation-wide architectural veneer service, samples of veneer flitches may be inspected. Merely contact your nearest United States Plywood branch manager. Architects near New York are invited to use the facilities of our New York veneer room in the Weldwood Building.

Another use of Weldwood Paneling is shown by these golden narra railings in the General Assembly Hall. All Weldwood paneling for interior use is guaranteed for the life of any building.

Architect: Wallace K. Harrison. Director of Planning, Weldwood Paneling installed by: Murray Hill Woodworking Corp.

Weldwood®

Weldwood®

United States Plywood Corporation • World's Largest Plywood Organization

Weldwood Building, 55 West 44th Street, New York 36, N. Y. and

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DISTRIBUTING UNITS IN ALL PRINCIPAL CITIES - WAREHOUSES IN CHIEF TRADING AREAS - DEALERS EVERYWHERE

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FREE: Please send me 32-page booklet "Construction Details and Specifications of Architectural Grade Weldwood panels."

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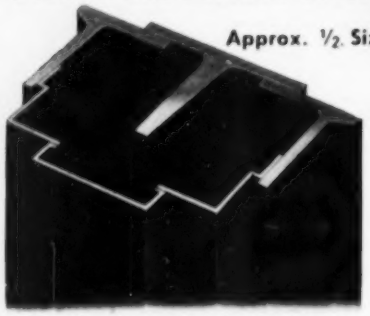
Where the *other* services also count – it's always BAYLEY WINDOWS

Saint Catherine School, Columbus, Ohio
Ramsey and Crane, Archts., Columbus, Ohio
Altman and Grady Co., Gen. Contractors, Ohio

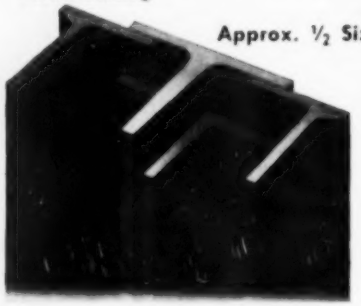
Bayley Originated Variable Width Adjustable Mullion and Mullion Cover

Approx. ½ Size



- Provides for contraction and expansion, insuring good contact at jambs
- Adjustable ½" plus or minus variation in masonry dimension
- Attractively conceals all bolts against corrosion hazard
- Provides two direction slip joint
- Lintel or building load do not bear on window — preventing distortion and assures proper ventilator operation
- Cost-reducing clip and bolt assembly
- Tight window and mullion fit, facilitates caulking

Approx. ½ Size



74 Years of RELIABILITY

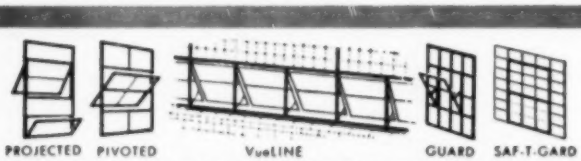
Bayley Projected Windows provide the modern school with better ventilation, vision and natural daylighting

The "better-serve" policy that, for so many years, has keynoted Bayley's client relationship is readily apparent in numerous ways. Constant improvement in product detail and quality is one. Another is exemplified in the Bayley Aluminum Projected Window (offered also in steel) that was designed to provide the window features requested by school authorities. Such

Modern appearance • Economy—painting unnecessary • Permanence — long carefree life • Simplicity — no complicated mechanism • Adaptable to all types of construction • Glazing outside — flat surface inside • Easily washed from inside • Prepared for screens • Permits use of accessories, such as draperies, shades, curtains, venetian blinds or awnings.

Whatever your window requirement may be, Bayley's years of specialized window experience can undoubtedly be of value to you. Write or phone.

See Bayley in Sweet's. Complete catalogs on aluminum windows, 16a/Bay; steel windows, 16b/Ba; Saf-T-Gard Hospital Detention Window, 16b/Bay.



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THE WILLIAM BAYLEY COMPANY

Springfield, Ohio

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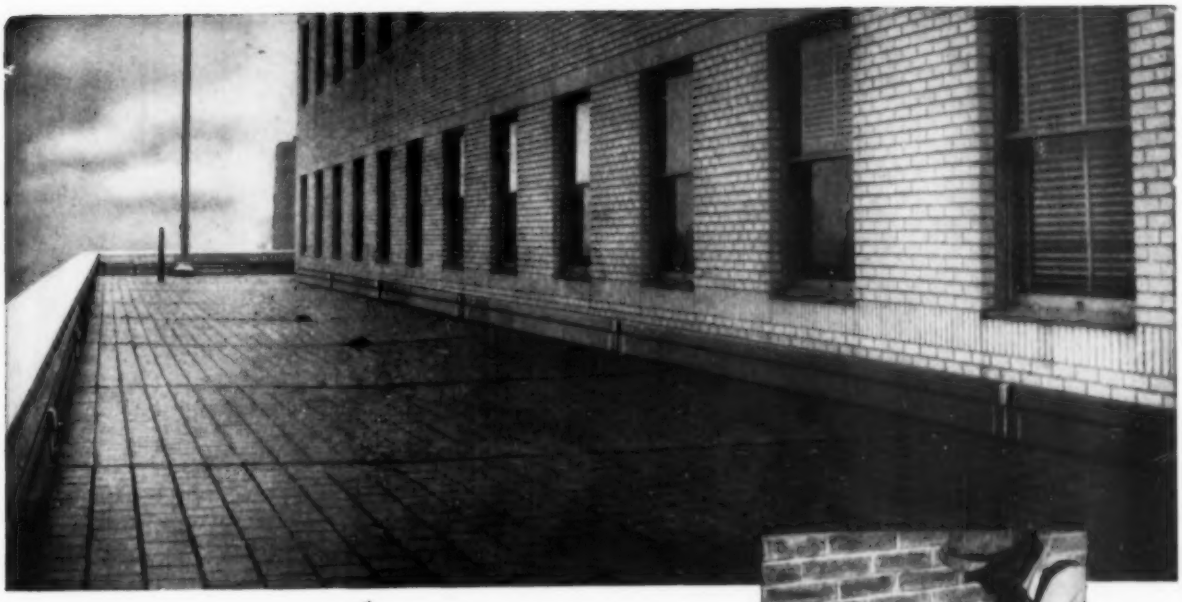

"CHRYSLER BUILDING EAST"
Architect:
Reinhard, Hofmeister & Walquist.
General Contractor:
Turner Construction Co.
Sheet Metal Contractor:
Benjamin Riesner, Inc.

FOR MAXIMUM PROTECTION

at the Chrysler Building East

COPPER BASE FLASHING *is installed with the new Chase Copper Base Flashing Expansion Joint*

Notice this long run of copper base flashing at the 11th floor step-back of Chrysler Building East. Whether the New York mercury dips or soars, expansion and contraction of the metal are safely and efficiently allowed by the proper spacing of the Chase Expansion Joints.

The efficiency and economy of copper for base flashing is assured with this new Expansion Joint. Architects as well as Sheet Metal Contractors are aware of the solid lasting protection, which this development now makes possible.

The new Chase Copper Base Flashing Expansion Joint, made of 18-ounce copper has open seams on the edges of the joint for fast, easy interlocking and soldering to the adjoining lengths of base flashing. A "cap box" is supplied with each Expansion Joint for attachment to the cap flashing and a completely watertight job.

FREE FOLDERS: *You will also want to know about the new Chase One-piece Thru-Wall Copper Flashing and Cap Flashing Receiver. Write for folders on both these new developments in copper flashing.*

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Chase Brass & Copper Co., Waterbury 20, Conn. PA-753

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☐ *Chase Copper Base Flashing Expansion Joint.*
☐ *The New Chase One-Piece Thru-Wall Copper Flashing.*

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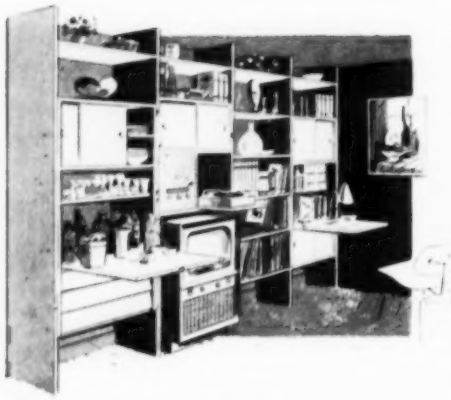
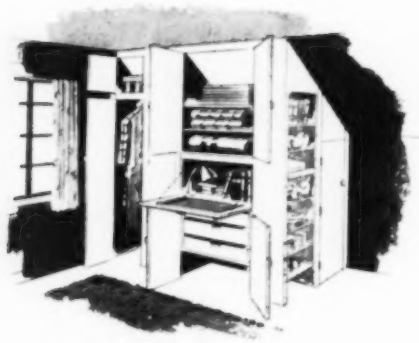


Flexible Storage Wall. (Plan 1) Simplicity of construction, adaptability mark this striking fir plywood built-in. Provides compact storage in small space. Box-like drawer, desk and cabinet units are interchangeable. Sections can be altered, added or subtracted to fit wall space. Cost of fir plywood to build unit shown.....**$105***



Under-Eave Storage (Plan 2) makes use of usually wasted space in expansion attics, second floor of story and a half home. Unit can be made to fit any ceiling slope. Fir plywood to build it costs.....**$95***

8 WAYS *to put extra with low-cost*

PLANS AVAILABLE

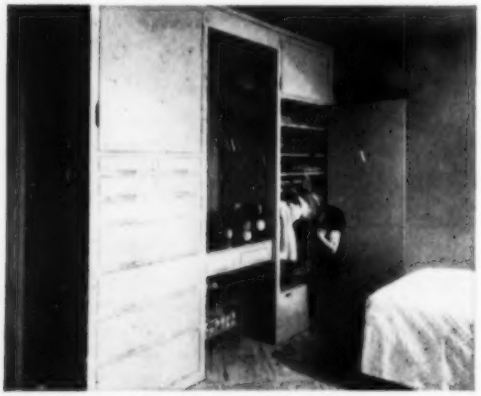
HERE are eight new ideas you can use to build your sales-story right into the house. For even the most modest home can be lifted above the ordinary . . . given *extra* sales-appeal with low-cost fir plywood built-ins.

Fir plywood built-ins far more than pay for themselves. They sell houses faster—and at better prices. See how little you pay* for fir plywood for each of these built-ins.

And when you plan with plywood, you make the built-in fit the house—*exactly!* No bothersome juggling of "stock" units. Fir plywood is easy to cut, fit, fasten. Paint it with popular modern accent colors to compliment your interiors . . . or use light stains to feature the real wood grain.

Get detailed plans for these eight sales-clinching built-ins from your local lumber dealer—or write Douglas Fir Plywood Assn., Tacoma 2, Wash. Please order by number.

Child's Storage Wall (Plan 5) helps sell parents shopping for home. Has ample room for toys, clothes, bedding. Sales feature: tough fir plywood doors and drawers can't be hurt by playing children. Fir plywood to build it costs.....**$80***



Fir Plywood

Douglas Fir Plywood PLYPANEL DFPA INSPECTED

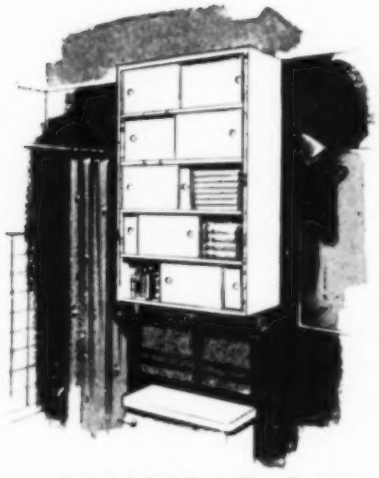
This trademark identifies quality-tested PlyPanel®—the versatile "one-side" grade of interior fir plywood. Other grades include "two-side" panels for uses where both sides of panel will be seen. For outdoor use, specify Exterior-type fir plywood. EXT-DFPA® on panel edge means 100% waterproof glue.

SPECIFY DFPA-INSPECTED FIR PLYWOOD

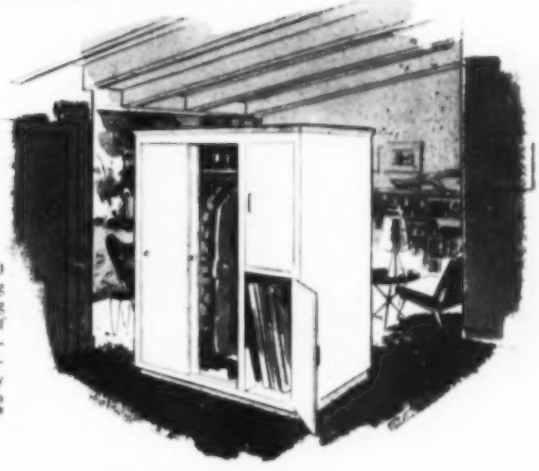
Shelf-Door Wardrobe (Plan 3) combines features of roomy closet, dresser and chest of drawers. Use it to help sell your house faster. Can be used in any room. Build it with fir plywood for only.....**$55***

Sectional Storage Units (Plan 4) can be combined to form shoulder-high storage wall for living room or den. Sections can be pre-built, installed on job. Fir plywood to build it costs.....**$90***

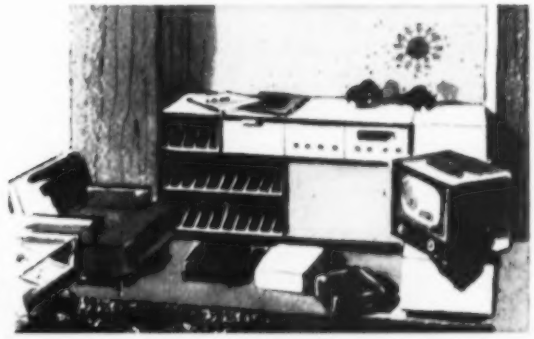
sales-appeal in your homes fir plywood built-ins



Odds and Ends Cabinet (Plan 7) appeals to women customers. Use it to reclaim waste space above water closet or hang in kitchen or utility room for extra storage. Get fir plywood to build it for only.....**$8***



Island Entry Wall (Plan 6) defines entry and living areas without confining either. Adds feeling of spaciousness. Saves building costs by replacing conventional wall and entry closet. Fir plywood to build it costs...**$100***



Music and TV Center (Plan 14) offers a real sales feature for music lovers. TV on turntable can be turned for convenient viewing. Main unit holds radio, record player and record storage. Fir plywood to build it costs about **$60***

*Based on latest available Chicago retail sales for fir plywood compiled by leading trade magazine. prices may vary throughout nation depending upon location and source of supply

BRIGGS *Beautyware*

Every Briggs Beautyware fixture is precision-engineered for outstanding performance!

Imagination, experience and skill are the tools of the architect. Fine building products are the materials which make those tools most effective. And there are no finer bathroom fixtures than Briggs Beautyware.

Briggs Beautyware plumbing fixtures are designed and built by experts—men who know how to make plumbing ware outstanding in appearance and performance. Styled to blend harmoniously with any interior decorating scheme, Briggs Beautyware always makes a hit with the folks who are going to use it. And—of equal importance—it's just as popular with the men who install it.

Plumbers and builders know that Briggs Beautyware can't be beat for simple, easy installation. They know they'll save time and money by taking advantage of installation shortcuts Briggs engineers have devised.

You can virtually forget client complaints, too, if you specify Briggs Beautyware. Briggs fixtures are precision-engineered to provide positive, trouble-free performance. Acid-resistant and easy to clean, they require a minimum of maintenance.

Specify Briggs Beautyware. You'll please builder, plumber and home owner. And you'll know you've chosen the finest.

© 1953

BRIGGS BRASS FITTINGS are precision-engineered, too. Durable construction and attractive, modern appearance make these sparkling, tarnish-proof chromium plated fittings a vital part of every Briggs Beautyware installation.

BRIGGS MANUFACTURING COMPANY · 3001 MILLER AVENUE · DETROIT 11, MICHIGAN

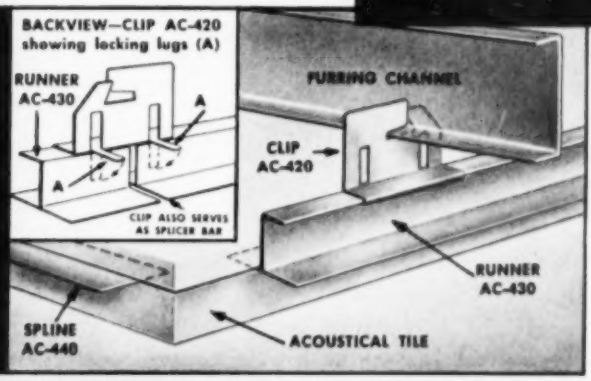
An Acoustical Tile Ceiling that "Stays Put"

...thanks to the LOXIT VICTORY ACOUSTICAL SUSPENSION SYSTEM

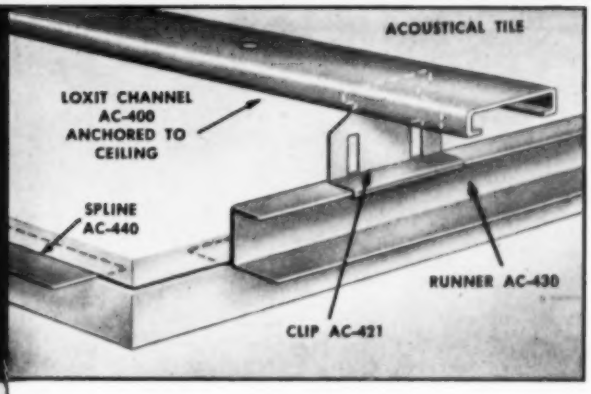
Mechanical suspension is a guarantee that acoustical tiles and slabs will "stay put." There are six Loxit Acoustical Tile Suspension Systems; consequently there is no acoustical tile condition that cannot be solved by Loxit suspension methods. The versatility of these Loxit Systems, including the new Victory Systems, provide the architect and acoustical contractor with a ready solution to all his acoustical problems when using kerfed or straight-edged tiles and slabs applied either directly to walls, ceilings, beams, ducts, or suspended.

THE LOXIT VICTORY REGULAR ACOUSTICAL SUSPENSION SYSTEM

(Ceiling Suspended Directly from Furring Channels)



THE LOXIT VICTORY SURFACE APPLIED ACOUSTICAL SUSPENSION SYSTEM



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2 The groove of the clip and the locking lug being both beveled assure a tight fit of clip to furring channel flange.

3 The clips AC-420 and AC-421 and the runners AC-430 being reversible as a combination automatically takes care of right or left furring channel conditions.

4 The clip itself serving as splicer bar eliminates the need of separate splicing arrangement.

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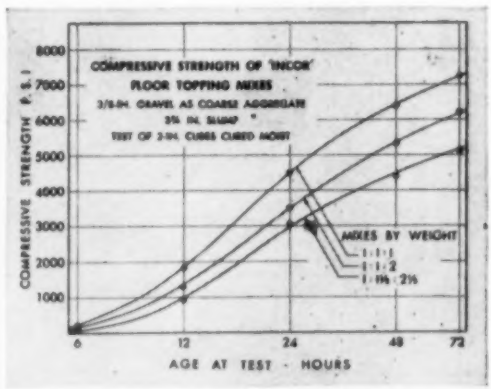

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p/a client critique SCHOOLS

In the following presentation of four schools–two high schools and two elementary schools–P/A adds another dimension to its program of architectural criticism. In the past, we have studied related buildings in a comparative and critical sense ourselves; and we have published a number of the "round robin" critiques, wherein the architects participating criticize each other's work. These features will continue to appear from time to time. In the "client critique," however, we have decided to take editorial cognizance of the fact that architecture is for people. If those for whom a building was designed do not find that the building aids and abets their activities, then (in our opinion) no matter how admirable the scheme appears on paper, how sensible and resourceful the structural system and use of materials, or pleasing its appearance, it is merely a building of passing interest–or maybe a museum piece. It cannot rate as architecture.

So, with each of the following schools, we approached the superintendents, the principals, the teachers, the students, and those indispensable individuals, the custodians or janitors. And we asked them direct questions, aimed at their particular concerns, about ways the building assists their work–or otherwise. We originally selected the schools for publication because we thought them excellent–as far as we could judge. In this new approach, we now test our empirical judgment against the facts of the case; practice against theory. Thus, for the first time, we are able to say with certainty that in all except minor matters, these are indeed excellent schools, and we can tell you exactly why, based on the testimony of those who use them daily. Incidentally–and of great importance–it should not be overlooked that this also means that, in each case, a realistic program had been developed.

After we talked or corresponded with the various school officials, the teaching staffs, the students, and the custodians, we let the originating architects read their comments. This we did for two reasons: (1) so that the architects would have an opportunity to explain things that might not be clear or could resolve conflicting comments and (2) so that we could eliminate from our discussions impertinent material. For example, in one of the schools, some of the testimony indicated that the heating wasn't all that it might be; and this was accurate testimony. But further check revealed that this was the system's first year of operation and that it was going through progressive adjustment (a familiar-enough situation), improving all the time, and that everyone–the school people and the architects–felt certain that in its second year all would be warm.

P/A's sole purpose is to help the profession design better buildings, better in every sense. And if, through client critiques, we can add one more source of information that will help architects work out more successful designs, then the venture will be more than justified. Since this is our first effort in this direction, we'd be pleased to learn your reactions to the feature.

High School: Birmingham, Michigan

Built to serve a fast-growing suburb of Detroit, this huge school plant now has facilities for 1200 students. Planned future expansion, including a large auditorium with full professional stage, anticipates a school body of 1500, up to a maximum (at any one time) of 1800. The 43-acre site, located at the center of the present (and estimated future) school population of Birmingham, allows ample space for the future additions, as well as for parking areas, playfields, etc.

As a study of the plans and aerial photograph *(acrosspage)* reveal, the forward, L-shaped mass, which contains administrative offices, library, cafeteria, and speech theater in addition to classrooms and home and fine arts departments, is (in the main) three stories in height. The single-story connecting element houses music and science classrooms and industrial arts. The gym block, including enclosed space for a future swimming pool, occupies a position at the rear, adjacent to playfields and the sizable parking area.

What do the people who use the school think of it?

the principal

Ross A. Wagner, Principal of the Birmingham High School, pronounces the plan "efficient," and adds that, as an educational tool, he thinks "it compares very favorably with other schools of its size and classification in our area. In fact, I feel that it excels most schools . . . Certainly it has created an environment more conducive to pleasant school experiences than that of most schools." Specifically, he testifies that "the building assists in student response and participation in our program . . . Students are proud of their building." In summing up, he comments that the building "lacks the institutional atmosphere characteristic of so many schools. I consider it to be an attractive, functional building—a building that has achieved beauty and function without expenditure of unnecessary sums of money in an extravagant fashion."

the teachers

From a review of opinions of the heads of the different departments we learn that the teachers find the school generally excellent: "It is roomy and light. Adequate space is available for organizing the work of the school in such a way as to be adaptable to many situations." Some felt that the chalkboards were mounted a little higher than necessary, and there was comment that, in the absence of an auditorium (which *is* to be built later), "adequate facilities for general assemblies are lacking." But design of the classrooms, both in size and shape; location of coat lockers and equipment; all seem good to the teachers. In fact, no specific over-all suggestions for improvement were made, except that "a greater facility for darkening rooms for visual aids would be a help." There was also mention of a certain amount of glare from natural light and the need for adjusting venetian blinds on sunny days: "Rooms with a southern exposure have been uncomfortably warm on some spring and fall days." The architect believes that with more experience with the blinds, adjustment earlier in the day would overcome this tendency toward overheating. Esthetically, the teachers find the building "pleasing both inside and out, and the decorating inside is well done."

the students

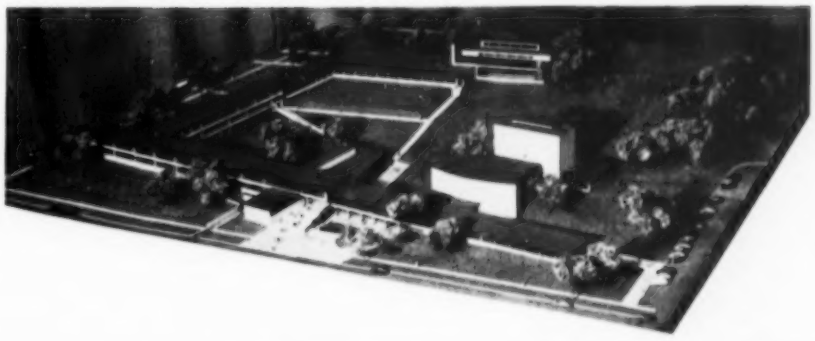
Ten past and present officers of the Student Council constitute the group to offer the student reaction to the building. They all like the building: "Its neatness and simplicity are beautiful. It does not present the appearance of the traditional school . . . the use of color is especially good." In the classrooms, "desks are comfortable and of adequate size," though a few feel that more roomy provision should be made for books. "For the most part, though, the rooms are excellent, and sound does not carry from the corridor or from adjoining rooms. The only noisy feature is from the ventilating system which, in a few rooms, provides a distracting influence." Like the teachers, students commented on the amount of sun in south-facing rooms on warm days. Lighting, in general, seems good, and the artificial lighting is "just right." The students testify that "it is easy to study in these rooms, and the ability to arrange the furniture to the convenience of the class is a decided improvement." The two things they isolate as being most distinct improvements over the older school are "the better lighting facilities, and the ample space," however they go on to remark that "the compactness of the old school . . . made it possible for students to see each other more frequently."

the custodian

"Compared to any older school building in which I have worked," the custodian tells us, "most of this school is a real improvement." He feels the need of a loading dock for bringing materials into the building, and while there is a removable sash in the exterior wall of the boiler room, he wishes there were some more flexible means for bringing heavy materials in. "The building is very easy to heat, and the heating does not require an overamount of maintenance . . . the wiring has given us little trouble," and he informs us that the entrance and corridor floors, window areas, and plain walls "are very easy to clean. The cinder block is much more difficult." Corridor and toilet walls are easily cleaned; the concrete floors are the most difficult—"concrete does not sweep as easily as most other types of floors."

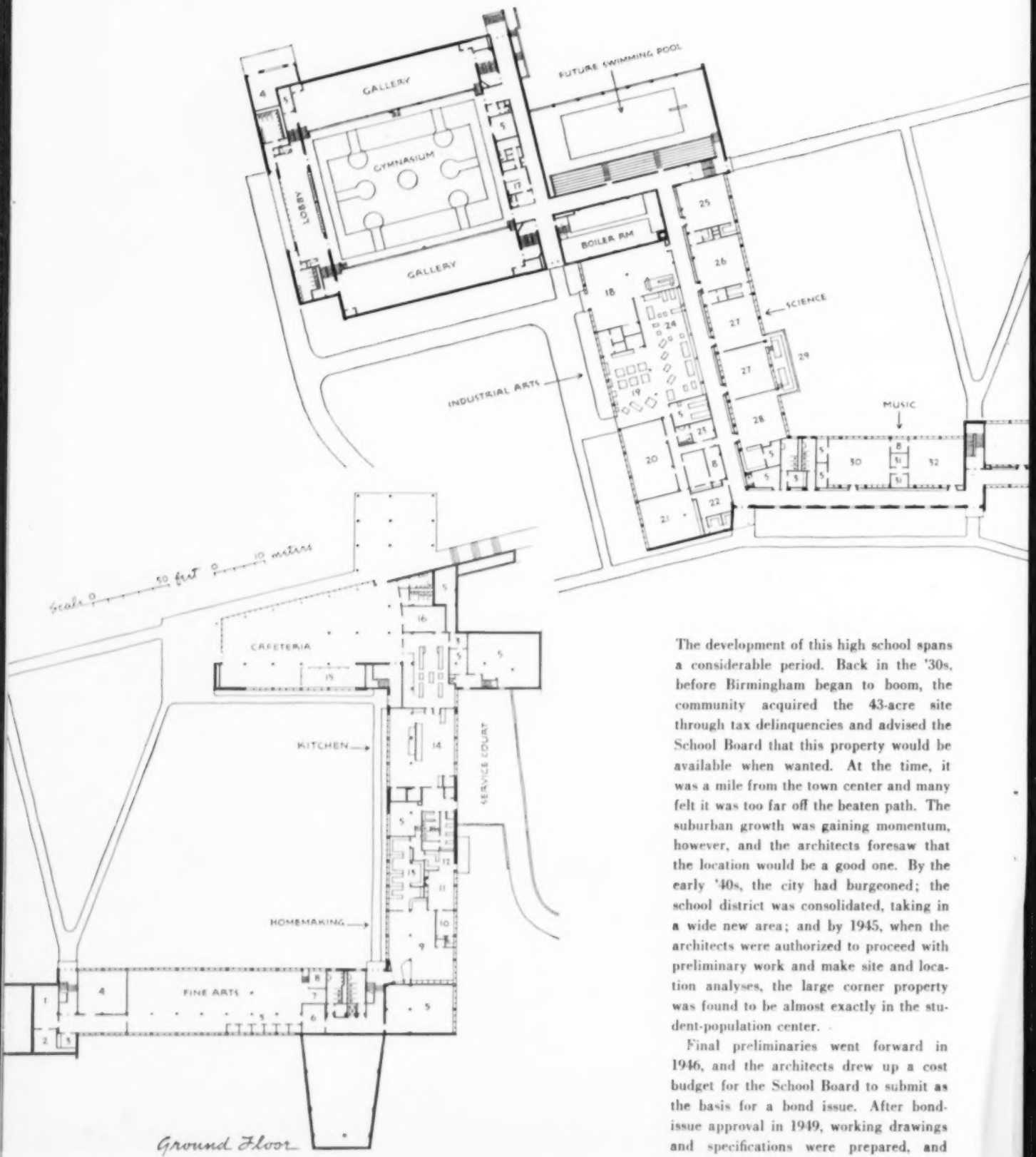
Administrative offices occur in a forward-projecting, one-story wing at the left of the main entrance (above). To the right of the entrance, future additions (model photo) will include a series of classrooms and a large auditorium. Photos: Richard Shirk

architects	Swanson Associates
structural engineer	Paul S. Calkins
mechanical engineers	Hyde & Babbio
landscape architects	Wilcox and Laird
general contractor	Cunningham-Limp Co.



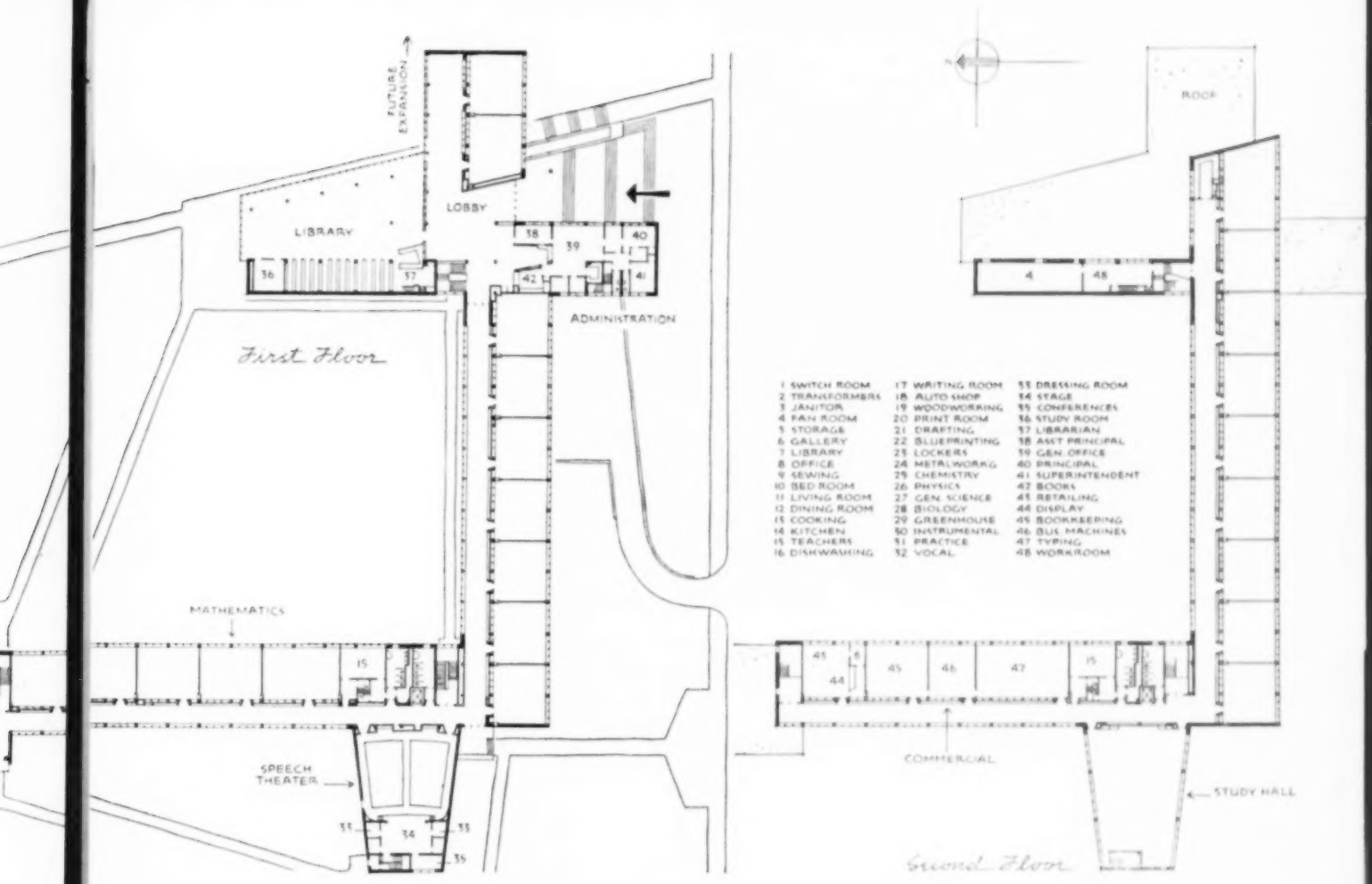
Seen from the air (below, right), the overall scheme is apparent. The parking lot, playfields, and gym are at the rear. Connecting the gym and the L-shaped, three-story mass of classrooms at the front is a one-story area containing industrial arts and science classrooms. In the wedge-shaped wing extending left from the classroom block are the speech theater (ground level) and large study hall (upstairs). The wing in back of the main entrance (right of photo) contains the cafeteria (downstairs) and school library (second floor).

high school: Birmingham, Michigan



The development of this high school spans a considerable period. Back in the '30s, before Birmingham began to boom, the community acquired the 43-acre site through tax delinquencies and advised the School Board that this property would be available when wanted. At the time, it was a mile from the town center and many felt it was too far off the beaten path. The suburban growth was gaining momentum, however, and the architects foresaw that the location would be a good one. By the early '40s, the city had burgeoned; the school district was consolidated, taking in a wide new area; and by 1945, when the architects were authorized to proceed with preliminary work and make site and location analyses, the large corner property was found to be almost exactly in the student-population center.

Final preliminaries went forward in 1946, and the architects drew up a cost budget for the School Board to submit as the basis for a bond issue. After bond-issue approval in 1949, working drawings and specifications were prepared, and



building contracts were let in May 1950. Some students moved into the new school in early 1952, but it wasn't until the fall of '52 that the school in its present stage was completed.

Analysis of school-program requirements led to the decision to construct a building that would eventually accommodate 1500 students, with a possible maximum of 1800. The present capacity is 1200. Before the design was "frozen," the architects made complete detail studies of all departments and models of all classroom types. Members of the School Board traveled to several outlying high schools to check the proposed scheme against comparable facilities.

Since the budget was prepared nearly two years prior to taking figures, and a rising market had intervened, costs had to be carefully watched. Through resourceful structural design and selection of materials, final cost came to 97 cents per cu ft, including site development, equipment, building, and all fees—only excluding cost of the site.

After a review of five types of heating, a split system combining perimeter hot-water radiation with forced air, was selected. Finned-tube units occur under exposed glass areas, and a central air unit supplies tempered air to the main ducts, with a branch duct leading to each classroom; booster heaters are thermostatically controlled in each of the rooms. Where the load is particularly heavy, as in the library and cafeteria, radiant panels were added to the basic system.

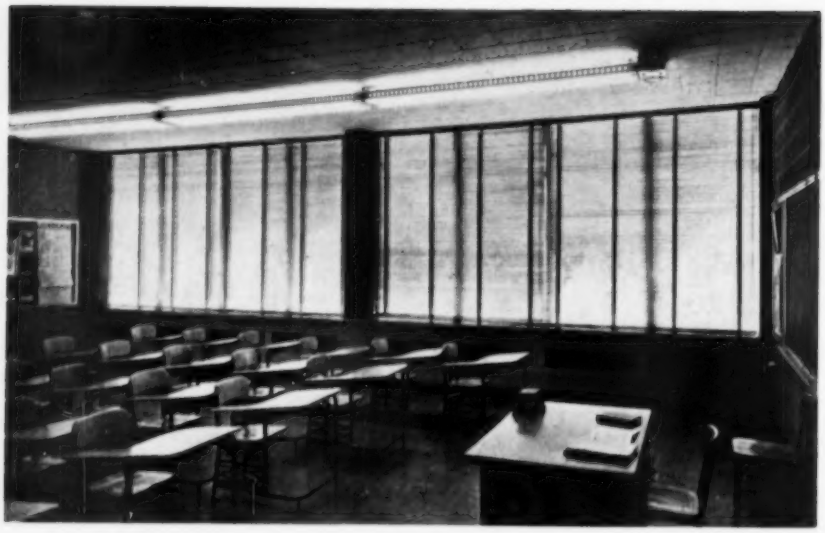
Structurally, the school is steel frame with steel joists. Walls are face brick and concrete block; floors are concrete; and the insulated, concrete-deck roof is surfaced with tar-and-gravel. Inside wall surfaces are of glazed tile, plaster, or painted concrete block. Floors are mainly asphalt tile, though metal-bound wood is used in the gym, and flooring in lobbies and washrooms is terrazzo. Perforated, glass-fiber tile is used on ceilings of classrooms and corridors, while fissured mineral tile surfaces ceilings of lobby and library.

For special uses in the evening, parties, or community meetings, various areas of the building, with independent washroom facilities, can be segregated by means of gates lowered across corridors. For example, the cafeteria is very frequently used for gatherings of one sort or another and can be used entirely independently of other areas. This also is so with the speech theater, seating 300, which is regularly used by community groups.

Aluminum sash are used throughout, with fixed windows in the library. Various types of glazing include double-insulating; polished-plate glass; and crystal DSA. In classrooms, surface-mounted, eight-ft tubular lighting is employed with either two- or four-tube fixtures. Square, recessed fixtures are used in the lobby, and elsewhere are recessed, circular, incandescent fixtures, or (in the stage area) special spotlights.

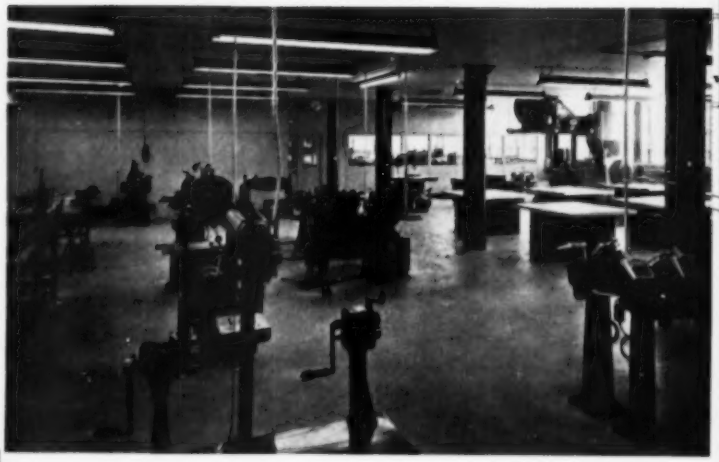
Included in special equipment are a public-address system; intercommunication phones; and a clock-and-program system —all extremely important for the efficient administration of so spread-out a building.

high school: Birmingham, Michigan



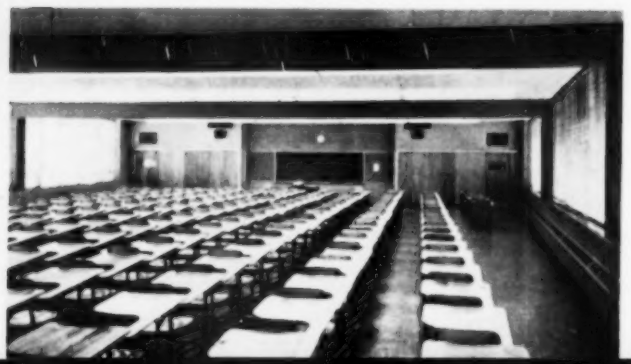
Column-to-column window areas occur in the typical classroom (above), with concrete-block or plaster walls, acoustic-tile ceilings, and asphalt-tile floors (SELECTED DETAIL, classroom storage wall, p. 143). Teachers and students remark on the good furniture provided, though some students felt the need for a bit more book-storage space.

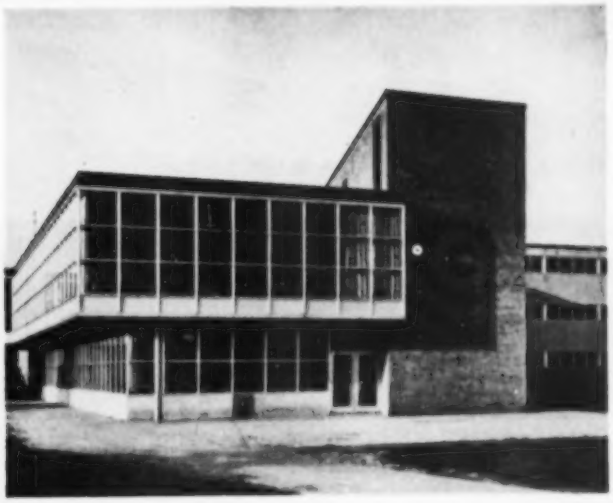
The concrete-floored machine shop in the industrial-arts department (right) is in the one-story wing next to the gymnasium.



The speech theater (left) is in a wing of the first floor, near the intersection of the two main classroom wings. Seating 300, it is used widely by the community, as well as for school purposes. Murals at either side of the stage are the work of Martha McClintock.

Above the speech theater is the large study hall (below), the windows lining both side walls.

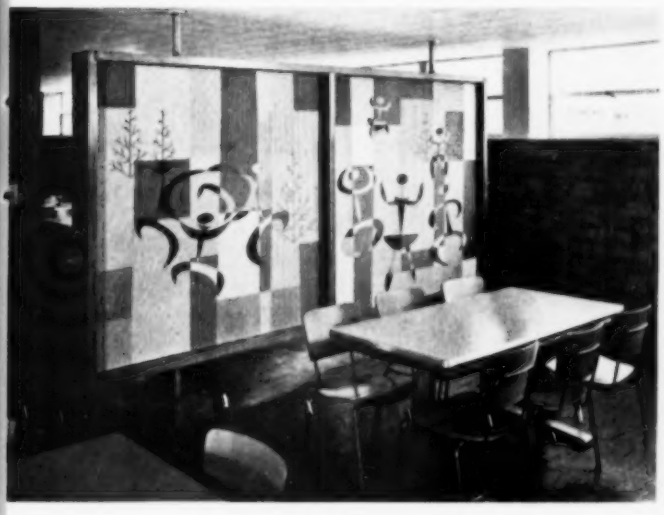




Projecting to the rear of the main classroom block is a many-windowed, two-story wing (above) *with the library on the upper floor* (top photo, below) *and the cafeteria* (bottom photo) *at ground level. Cafeteria chairs may be stacked, tables pushed aside, and the floor cleared for a party.*

Outside the library, the colorful lobby is furnished with pieces upholstered in a plastic fabric, designed by Pipsan Swanson. (SELECTED DETAIL, lobby plant tub and drinking fountain, *p. 141*).

At one side of the cafeteria, acoustic, semi-partitions (below) *set off the eating alcoves for teachers. The panel murals are by Martha McClintock.*

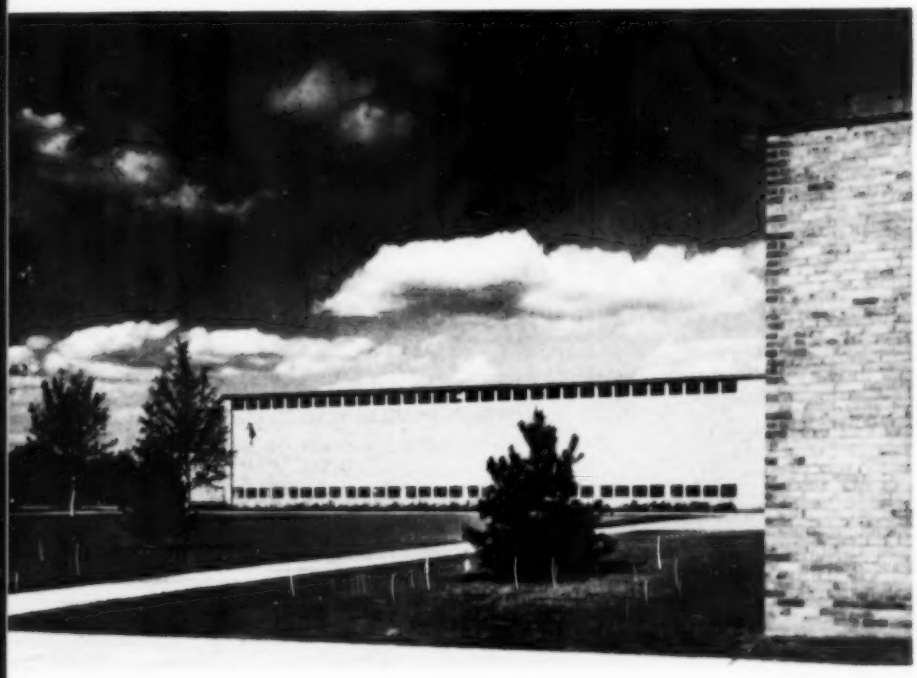


high school: Birmingham, Michigan

At the far north end of the scheme is the gymnasium facility, adjoining a large parking space (a second parking area is scheduled for the southeast part of the site after the auditorium is built). The glazed, floor-to-ceiling entrance wall faces a wall of trophy cases across the lobby (left). Stairs at either end lead up to bleacher galleries.

Collapsible banks of bleachers are along both long sides of the 92' x 120' main gym floor and occupy the bordering galleries. The area is divided into two smaller gyms by a series of six electrically operated, aluminum, roll-down doors that interlock with sliding mullions to form a continuous wall across the entire building. With bleachers telescoped, the galleries can be used for practice and small court games. Lockers occur beneath the side galleries—on the east, for boys; under the west gallery (shown here), for girls.

Obscured glazing in the lower window bands along the gym side walls (left) light the main locker rooms.



elementary school: Columbus, Georgia

Replacing three obsolete elementary schools that were located from 3 to 15 miles away, this economical building immediately adjoins a recently completed 1000-house development. Future plans for the 26-acre site (*model photo acrosspage*) include both additional elementary classroom wings and a new junior and senior high school, organized in a related campus plan. All basic services were designed to accommodate the future development.

The present school, planned in four north-south oriented classroom wings, also includes an administrative unit, and a cafeteria, which (pending future construction) temporarily doubles as auditorium. All units are joined by covered walkways, and the sheltered space between administrative unit and cafeteria building appears on the working drawings as a "milling area."

Those who use the school appear to be well pleased:

the principal

Principal B. F. Moseley sums up his reactions to the building as being "well planned, well built, and easy to keep clean." Because of the spreadout plan— and especially when new wings are added—he looks forward to the day when an intercom system may be installed; otherwise, "the building serves efficiently the purpose for which it was designed." The facilities for modern teaching, and accessibility in supervision are the two main items he isolates as superior to other schools of the same general type in the area. He feels that student response and participation are actually furthered by the building, particularly by "the comfort and good lighting." In conclusion, he comments: "We have a splendid location and schoolbuilding of which we are justly proud."

the teachers

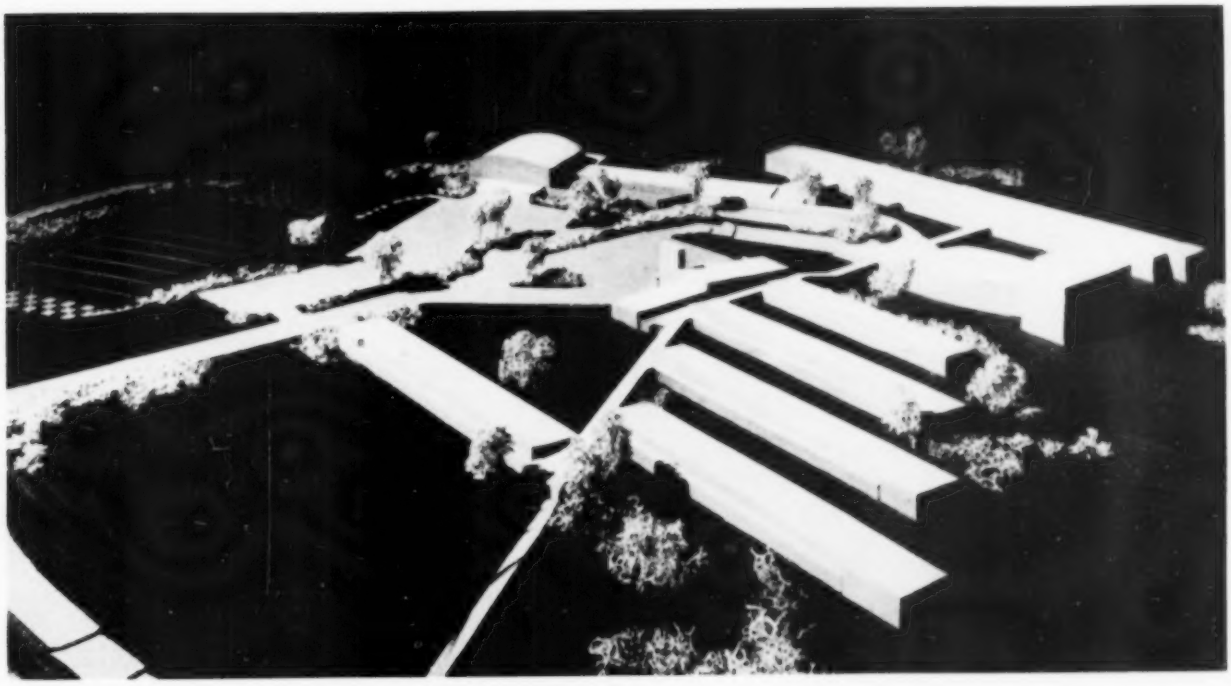
The teachers' over-all impression of the school is "good," with "privacy for each classroom" considered the single most successful element, and the "combination of cafeteria and auditorium," least successful. As mentioned earlier, this combined use is a temporary expedient until the large auditorium is built, as part of the total campus scheme. In the classrooms, desk areas and facilities for teachers are "adequate," though some felt that more chalkboard space and less tackboard might be an improvement. One or two thought it would be better to have cupboards with doors for wraps, instead of the open-front recesses, with shelves, hooks, and hanging rails that were provided. They laud the "pleasing" appearance of the room and the flexible room arrangements that are possible. One commented that "sun is annoying during some periods." The architect states that "on December 22 the sun gets above the sill and onto the floor but not onto the first row of desks adjacent to the south windows. This sun on the floor *does* cause some glare. Except for about three weeks before and after December 22, however, sun does not enter the rooms." The teachers' summary comment is that it is a "very beautiful building; well planned, and providing for expansion.

the students

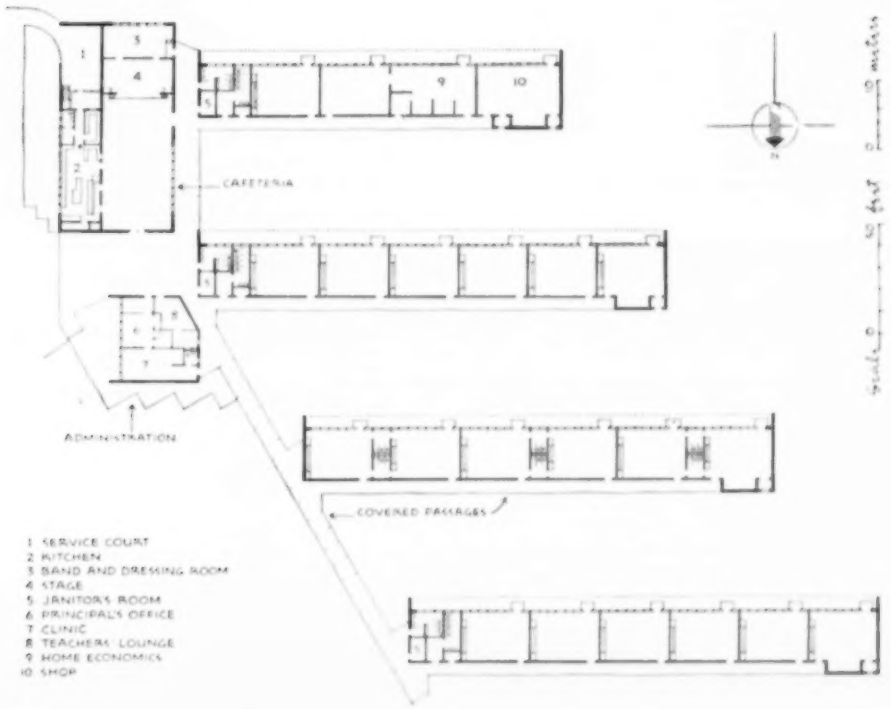
While the students all admire the appearance of the exterior of the building, some mentioned the "sloppy" grounds—again, a temporary condition, awaiting completion of curbs, paving of road, and setting grass when the next additions are constructed. Inside the building, the students praised the "lovely color, many windows, good lights, and surroundings conducive to study." They said they were "proud to be in such a building." In the classrooms, closet space is "adequate"; provisions for the student, "comfortable"; the daylighting "good." Though the rooms seem "noisy at times," hearing is easy. The rooms are always comfortable, and the electric lights, "just right." As compared to older schools that the students had attended, the best things about the new school are the "wash bowls in room; the cafeteria; comfortable seats; good lights; and good heating system; large play area; and plenty of space."

the custodian

"The rooms are easy to work in because of the movable furniture and good natural light," the custodian reports. The heating system is "simple to maintain and operate" and produces comfortable conditions at all times. Electric lighting fixtures are good; "no trouble replacing burnt-out lamps." Window areas are "a good size and no great problem in washing." In fact, the only maintenance difficulty that the custodian ever has are the asphalt-tile floors "in rainy weather." This is because wetness is tracked in from the outside corridors. The architect believes this is a fair criticism and adds that in any future school work, he would like to increase the width of the walks by 1′ 4″ to alleviate this situation.



architects	Aeck Associates
structural engineer	I. E. Morris
electrical engineer	C. F. Howe
heating engineer	L. C. Beland, Jr.
plumbing engineer	G. R. Delay
interiors	Mary Olive Whitehead
general contractors	Murphay Pound Construction Co.



elementary school: Columbus, Georgia

In planning this new school, Richard L. Aeck was the designer, while Frank B. Juden acted as job captain.

Within the area served by the school live about 3500 families and, with the new residential developments being built in the neighborhood, classroom overcrowding became a serious problem—in one case, requiring operating on two shifts. The eventual school plant will also serve as a community center for the adult population. Approximately three miles from downtown Columbus, the hilltop site is 27 acres.

The elementary school shown here forms the nucleus of an ultimate development that will include a high school and auditorium, as well as additional elementary-school facilities. Everything was sized with the future construction in mind. For example, the boiler room is large enough to accommodate two additional boilers that will be needed for the future units; larger water and sewer lines than required for the nucleus unit were installed to obviate ripping out and adding at a later date. Even so, the architects came out with the excellent figure of $9.52 per sq ft, with covered walks and "milling area" figured at one half the cost of enclosed areas. This unit cost includes grading and all fixed equipment.

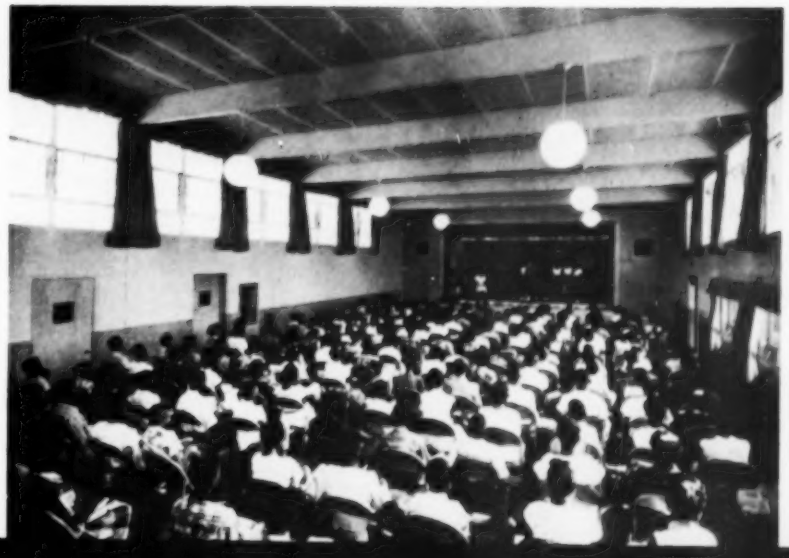
A point that Aeck feels to be of special interest is "the north-south orientation of classrooms, affording maximum control of light, with 6′ 3½″ roof overhang above the south windows calculated to exclude the glare of direct sunlight, without use of blinds." He also notes "the economy of materials," using exposed, rigid-steel frames 8′ oc *(see detailed discussion of this system, August 1953 P/A)*; brick curtain walls, exposed inside and out, and the exposed roof decking (chemically treated wood fibers, bonded with cement) that provides, in the one material, structural strength, acoustical properties, and finished ceiling. An advantage to this system, that he emphasizes, is the speed of erection.

Color used in the building is unfortunately not apparent in black-and-white pictures. Most exterior structural steel is painted brick red. The underside of exterior ceilings is yellow; gutters, downspouts, facias, sash, gravel stops, outside door frames, and the cantilevered beams and columns on south elevations are slate gray. Doors opening onto covered corridors are painted Carnival red, while exterior classroom doors along south elevations are variously ivory, Vista green, Focal orange, buff, dark blue, red, dark gray, yellow, and light gray. Inside, classroom ceilings and beams are Seafoam green—and Eye Rest green is used on the walls.

Partitions between classrooms are of plywood. The commercial projected steel sash are glazed with DSB sheet glass; in toilets, obscure glazing is used. In general, lighting is fluorescent, though incandescent fixtures appear in the cafeteria-stage area and in the administrative unit. The building is heated by a two-pipe, low-pressure steam system, fueled with gas; automatic controls. Unit heaters supplement the system in some areas.

In the exterior and interior views of the typical classroom (left and below) *the economical exposed structure is apparent—the steel frames 8' oc, with cantilevered outriggers along the south windows; exposed structural-acoustical roof decking; plywood partition between rooms.* Photos: Gabriel Benzur

The continuous covered walkway (above) *intersects the stepped-back classroom pavilions at their northeast corners. Opening off the "milling area"* (above right) *is the cafeteria-multi-purpose room that temporarily also serves as the school auditorium* (right).



elementary school: Palm Springs, Calif.

The Katherine Finchy Elementary School, built in the north section of Palm Springs, supplements similar facilities in central and south parts of the community. While the present scheme provides 12 classrooms, plus a kindergarten, the site is large enough to accommodate the anticipated future school of twice this size. As need arises, new classroom wings will be added east of the administration building, eventually forming an almost symmetrical plan, with administration and cafeteria-assembly buildings in the central area.

The school people gave most detailed attention to their commentaries:

the principal

As a facility to administer, Principal Warren Linville reports that the school is "efficient . . . adequate in all areas . . . and unusual in that reserve classrooms are available." He believes the building contributes to student response: "The children quickly become adjusted to the building and seem to enjoy the feeling of adequate rooms and space."

Among the very few things he lists as possible improvements are even sturdier hardware—this, in spite of the fact that a heavy-duty type made by a nationally known firm was used (a common problem?); sound-proofing in the auditorium (a lack that can be rectified when funds allow); and a sink in each room rather than one (in the outside corridor) for each three rooms. The latter, again, was a matter of economy. The architects point out, "too few are better than no sinks at all."

the teachers

In the opinion of those who teach the children, the building is "excellent as a teaching facility . . . there is no disturbance from adjoining rooms . . . the modern architecture is pleasing and functional." They express the wish for doors out to the patios from each classroom. Another refinement they would like is to have separate cooling and heating control for each room, rather than the present system by which one control affects three rooms—"too hard to agree on proper temperature." On the point about patio doors, the architects say that this "appears to be controversial from the many discussions we have had with educators. We have installed many, but none has ever been extensively used. We believe lack of development of the outside classroom is primarily due to the difficulty in obtaining funds for such use." Although the single heating and cooling control for each three rooms operates correctly, the architects agree that due to preference differences, individual room control is desirable and they now use this system exclusively.

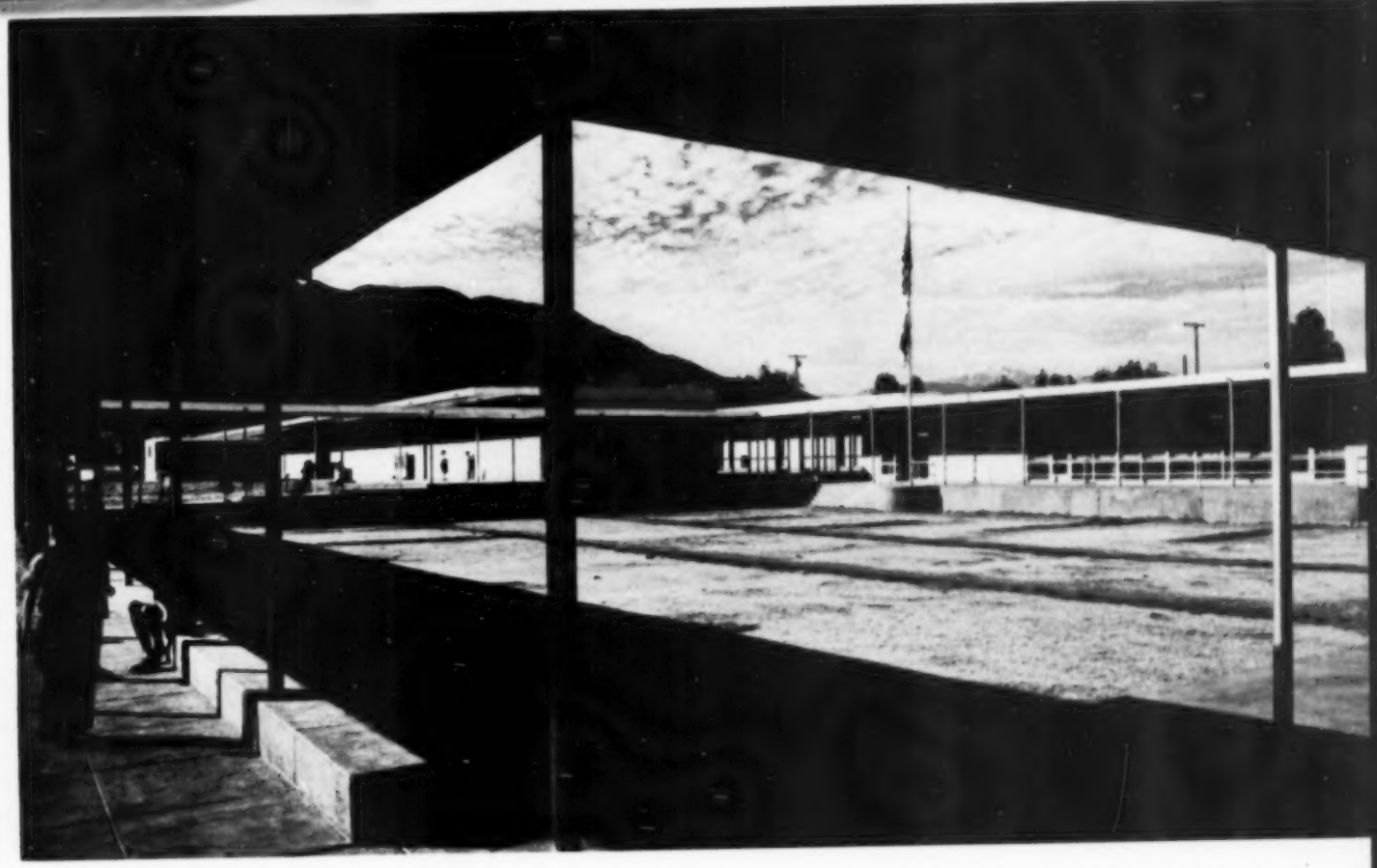
Unanimous applause went to the room size and shape, provisions for the teachers' own use, appearance of rooms, and room lighting, both natural and artificial. Half of the teachers (reporting) desired mobile bulletin boards and units for outdoor work—things that could be provided if the need becomes insistent and if funds allow.

the students

Of the 64 students answering the questionnaire, 50 like the appearance of the outside of the building ("large windows . . . nice color . . . neat and trim . . . shaded porches"). From the 14 with dissenting opinions, we learn that it "looks like a factory . . . looks like a hotel . . . has a bare front." Sixty like the inside of the building: "airy . . . contrast of colors . . . not bright; not dull; just right . . . makes us feel at home." Comments from the four who don't enthuse are "colors not loud enough . . . gets tiresome." The daylight quality; sound condition; room comfort; environment for learning are all things unanimously applauded. And they especially like the "nice covered outdoor walks . . . cool place to play when it is hot . . . nice and wide."

the custodian

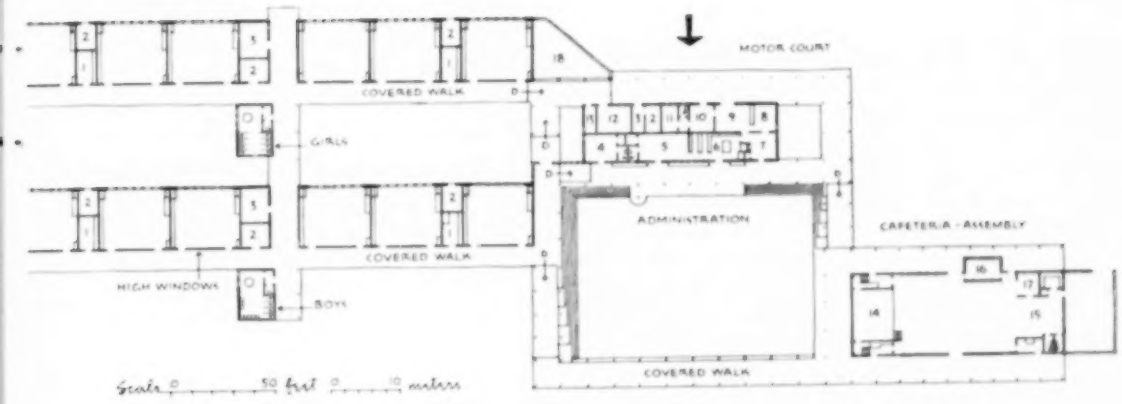
The custodian's special praise goes to the cement floors, which are "easier to clean and require less upkeep" than tile-surfaced floors. The heating system is "simple to maintain and operate"; the lighting has given "no trouble so far"; the water and plumbing installation is "very satisfactory," and cleaning the building is "easy."



A large outdoor assembly area (above) *lies south of the administration building* (right) *and is surrounded with covered walks. Soffits are corrugated aluminum.*

Photos: Julius Shulman

architects	Clark, Frey & Chambers
structural engineer	H. C. Whittlesey
general contractors	H. H. Foster Associates, Inc. George W. Kreimer



1 STORAGE
2 COOLER ROOM
3 HEATER ROOM
4 MEN TEACHERS
5 WOMEN TEACHERS
6 BOOK ROOM
7 PRINCIPAL
8 OFFICE
9 PUBLIC SPACE
10 NURSE'S OFFICE
11 REST ROOM
12 TRANSFORMERS
13 SWITCHBOARD
14 STAGE
15 KITCHEN
16 TEACHERS' DINING RM
17 DISHWASHING
18 PLANTING SPACE

elementary school: Palm Springs, California

Accommodation to the slight slope of the site was handled by ramps in the open-air corridors and passages. Periodic breezes, sometimes strong winds, from the northwest suggested not only the basic arrangement of buildings but also introduction of occasional areas of wire-glass partitioning at strategic points, such as at the northwest corner of the outdoor assembly area, between classroom wings and administration building.

A fundamental program requirement was to keep maintenance costs to a minimum. For comfort during hot weather, at the beginning and toward the end of the school term, shaded outdoor areas and room cooling were desired.

Design and orientation of the bilaterally lighted classrooms were conditioned by the brilliant sunshine in the desert area and the wish to avoid glare. It is worth more than passing notice that, though natural light conditions are extreme in Palm Springs, all those who use the school say the daylighting is first rate—and this, without extraordinary devices such as louvers, directional glass block, etc.

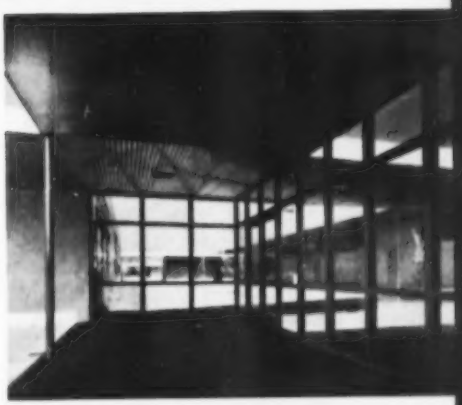
The wood-framed structure is built on concrete foundations; pipe-column supports and cement floors were used for economy; the aluminum roof flashing and corrugated aluminum soffits also contribute to economy, in that they do not have to be painted. Mineral-type insulation between the joists of all room ceilings assists thermal control. The sash are architectural projected steel; doors are wood. Exterior plaster wall surfaces are painted light buff except for the administration unit where the walls are terra cotta. Doors, window frames, and pipe columns are light gray—"a practical color," the architects suggest, "for surfaces that are handled much." Interior classroom colors are medium-light tones, selected for adequate light reflection and distribution. Alternate rooms are Sage green, Grapefruit yellow, and Dusty rose.

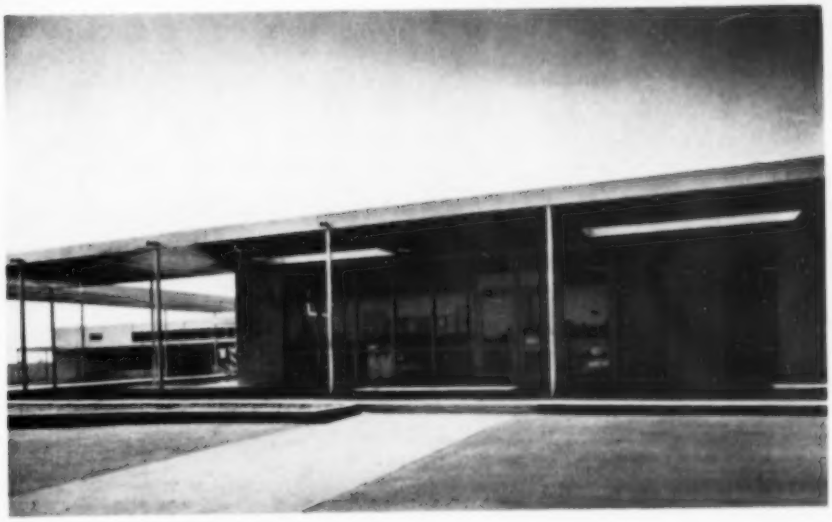
Heating of the plant consists of a forced air system, distributed through overhead ducts, with natural gas furnaces supplying the heat. Cooling is accomplished by water-evaporative blower units, a portion of the cost for these being defrayed by reduction in vent openings in windows that would otherwise have been necessary.

The school, finished in early 1950, was built at a cost of $9.50 per sq ft of floor area, with open corridors and passages figured at half area.

Windows of typical classrooms are architectural, projected steel; the music-practice room (right) *is at the end of the south classroom block.*

Patios between classroom wings (left) *have wide, open corridors, with aluminum surfaced soffits deep enough to keep the sun out of the high bands of windows on south walls of rooms. At intersection of the walk west of the administration building and south classroom wing* (right) *wire-glass partitions shield the outdoor assembly area from the northwest wind.*





The terra-cotta painted administration building (right) *lies east of the classroom wings and (when the total school is built) will be in the center of the group.*

junior high school: Darien, Connecticut

This extensive addition to the Darien, Connecticut, Junior High School was one of the five top award winners in this year's Better School Design Competition sponsored by the magazine, *The School Executive*. An uncompromisingly modern concept, it is joined to an existing, multistory, Colonial-style older building. Use of white trim and the same red brick effects a visual harmony between the new and the old.

Two single-story pavilions, joined by an enclosed corridor, house the 13 new classrooms. The centrally located unit that connects the new addition and the old building includes the main entrance lobby and administrative offices. In the wing that leads back to the two-story mass (gym, one-half flight up; lockers, arts, crafts, and homemaking departments, one-half flight down and at grade, due to the site slope) is a large, south-lighted, cafeteria, multipurpose room. For detailed discussion of the over-all design problem, the building site, and the materials and equipment used in construction, see subsequent pages.

Let us now turn to those who work and study in the building daily, to learn their individual reactions to the school and to see how it affects their various tasks:

the principal

"All told, I consider this not only an efficient building to administer," comments Principal Norman R. Hunt, "but from what knowledge I have of comparable junior-high-school buildings, I consider this one of the best." He particularly applauds the provisions for special subjects—science, art, crafts, home arts, and physical education—which he terms "superior." The central location of the administrative offices, he tells us, "assists efficient administration." Pupils are "very enthusiastic" about the building, and "while there may be citizens who don't like the building, if so, they haven't expressed themselves to me."

the teachers

A committee of twelve teachers compiled a group reaction:

"On the whole, we feel that the school provides excellent teaching facilities," they state. The most successful elements are "the library, the science room, the gymnasium and its relation to the locker rooms and showers." While they find no elements lacking, some express the wish that the fabrics and foods rooms (in the home-arts area) might have been somewhat larger. The architects agree that a larger space would not be wasteful, but add that "the area as built is larger than the area originally requested."

Specifics the teachers cite as greatest improvements over the older building are "the light, sunny, airy corridors, and the good acoustical treatment." The classrooms are "good in size and shape." A minor point that some find a trifle awkward is the part of the cupboard-like chalkboard enclosure with hinged doors that swing out into the room. They questioned if all sliding doors might not have served the same purpose better. Also, for certain types of instruction, a few teachers felt the chalkboard space to be rather restricted. Since the closed cupboard doors have a tackboard surface, the architects comment that the swinging doors (unlike sliding ones) provide desirable additional tackboard space. And, if it proves that certain rooms actually need more chalkboard space, they point out that chalk panels could readily be applied to the backs of the swinging doors.

The louvered window areas meet with general approval, although some teachers questioned whether it might be even better if the corridor louvers above the coat lockers were moved to the exterior walls of the corridors. The architects have been testing this very scheme and may adopt it.

the students

The architects' ears should burn over the opinions expressed by the Student Council, which includes members from each of the grades. General enthusiasm particularly mentions the modernity, abundance of glass, streamlined appearance, and color.

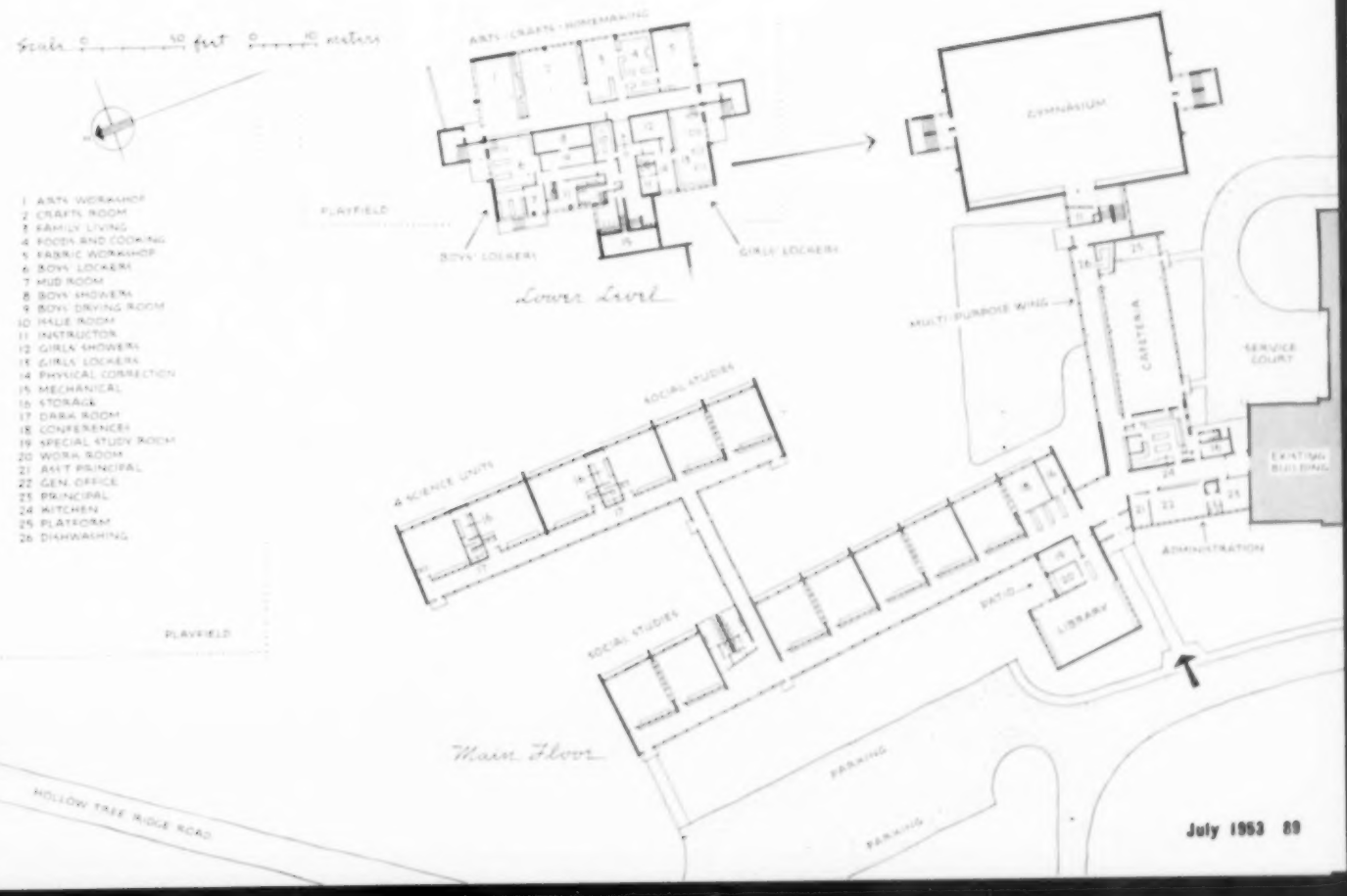
In the classrooms, they applaud the "light, modern, movable furniture." And they note the absence of glare. "The chalkboard is easy to see, and the rooms are much quieter than the rooms in the old building," they testify. They like "the even distribution of heat; the corridors; the fact that there are no stairs; and the walking distances." In fact, except for mentioning occasional glare in the cafeteria, where there are no louvers, their reaction is exuberant.

the custodian

The main things the custodian enjoys about the new building are that there are "no stairways to go up and down many times a day, sweeping of same two and three times daily, dusting of handrails, washing bannisters, etc." Now that the heating system has been adjusted, "an even heat is maintained," and "I do not anticipate much maintenance or repairs." With the inevitable complexity of a modern, automatic system, he comments on the numerous gages, thermometer controls, valve settings, motors, pumps, and converters that require constant check. The classroom lighting he finds "generally OK." For servicing the high-mounted lamps in the gym, either a tall scaffold or an 18-ft safety platform stepladder is required, and "this calls for two men to do the job." He suggested that a better scheme might be to have an installation "similar to that used in theaters and larger auditoriums" wherein the fixtures could be lowered or raised by a rope or chain.

In general, the building seems to be relatively easy to keep clean, and "the window areas are preferable to the small-pane type found in the older building." Though light conditions in the rooms are excellent (see technical discussion, page 94), the custodian adds that dusting of the louvers requires a good deal of time. He admires the masonry walls of the classrooms, as "they save many hours weekly in washing painted walls and they don't have to be repainted every three to four years." As to the building's appearance, it is "all right both inside and out."

architects	Ketchum, Gina & Sharp
staff architect-in-charge	Robert D. MacKinnon, Jr.
consulting architects	Moore & Hutchins
structural engineers	Severud-Elstad-Krueger
general contractor	James Romeo & Associates



junior high school: Darien, Connecticut

The suburban Town of Darien, Connecticut, 40 miles northeast of New York, has grown prodigiously in recent years. Among the most pressing resulting needs were additional school facilities. The junior high school was typical. In 1936, the old junior high was built to accommodate 350 students. By 1950, enrollment stood at 494, and estimated enrollment for 1958 is 760.

A citizens' School Building Needs Committee surveyed the problem. The 1949 Town Meeting appointed a Building Committee, whose chief functions were to engage architects, determine the site, and act as client during preparation of preliminary plans. The thoroughgoing manner in which this group chose the architects—originally reaching out to as many as 41 firms and finally selecting a firm that, though distinguished in other fields, had never designed a school—was described in August 1951 P/A.

The program required an increase in classroom capacity from 350 to 750 students—if possible, by adding to the existing building, which was well located and in good structural condition. An early decision was to plan the addition as a one-story wing or series of wings, which, the architects argued convincingly, would be both more in scale with the schoolchildren than a two-story structure and less expensive to build, since it would not require costly fireproofing or stairways.

Numerous preliminary studies indicated the desirability of purchasing two neighboring properties, even though these would not be cheap. The cost was justified, however, by the fact that this would form a total parcel of 26 acres—large enough to accommodate a future new elementary school as well as the junior-high addition.

After deciding which elements should remain in the existing building and which had best be in the addition, requirements for the latter consisted of administrative offices, library, thirteen classrooms, cafeteria, arts, crafts, and homemaking departments, and gymnasium.

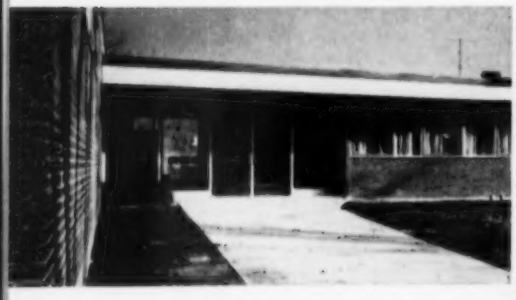
The bilaterally lighted, 28′ x 28′ classrooms are arranged in two wings, served by west-facing corridors. Main classroom window walls face east; high window strips on the west walls of the rooms borrow light from the corridors. Quality of the room lighting is conditioned by metal louvers installed 2′ 2″ outside the east window walls and by louver strips (on the corridor side) on the window bands above the coat lockers. For full discussion of the daylighting system, see page 94.

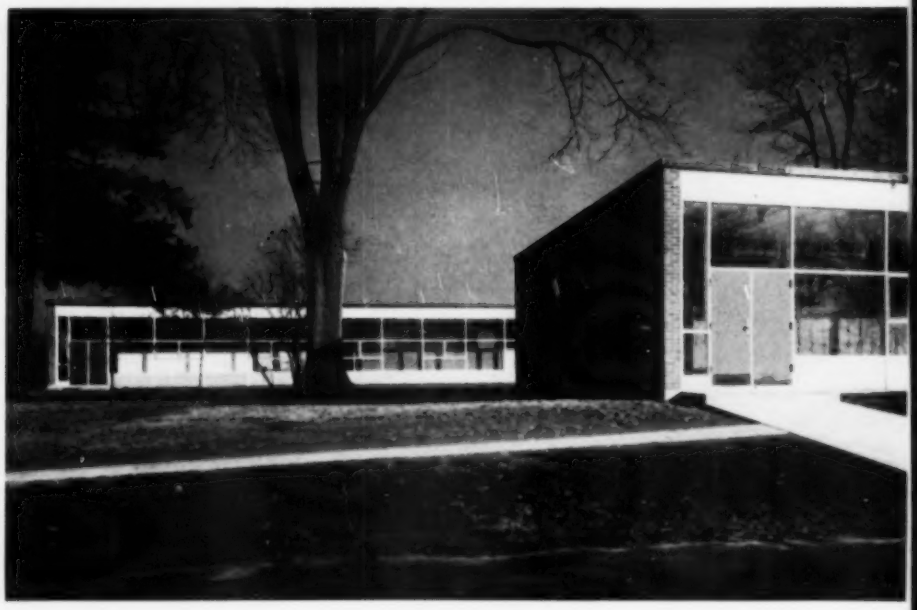
Beneath the high window bands, the nonstructural classroom-corridor walls consist of furniture units—lockers on the corridor side; a counter-height storage cabinet and work counter, with tackboard above, on the classroom side. In plan, these walls are at an angle inward, forming a sawtooth-pattern that increases the apparent corridor width, assists acoustics, and provides an out-of-traffic reveal to receive opened classroom doors.

Partitions between classrooms are brick-surfaced masonry, with a central portion (extending to the ceiling) made up of cabinet units, one type consisting of chalkboard compartment and tackboard panels (SELECTED DETAIL, page 139), while alternating units combine a diversity of storage elements. In both types of cabinets, when units are closed, the exposed surface, covered with colorful, plastic-base fabric, serves as tackboard area.

Only the gym block is a two-level structure, with the gym on the upper floor; lockers, and arts, crafts, and homemaking rooms, downstairs. Because the site slopes at this point, lower-level rooms are at grade.

Structurally, the classroom wings combine pipe-column framing with steel joists. Spanning the 82-ft depth of the steel-framed gym are 36″ WF steel beams—largest of their type manufactured. Exterior walls are brick. Interior wall surfaces include natural brick, painted and natural plywood, and ceramic tile. Flooring, except in toilets, washrooms, and shower rooms (where ceramic tile is used) is asphalt tile. Steel sash are fitted with ¼″-plate glass; plastic-bubble domes skylight the central area of the library. Artificial lighting is incandescent throughout. An oil-fueled boiler serves the floor-panel, radiant-heating system.



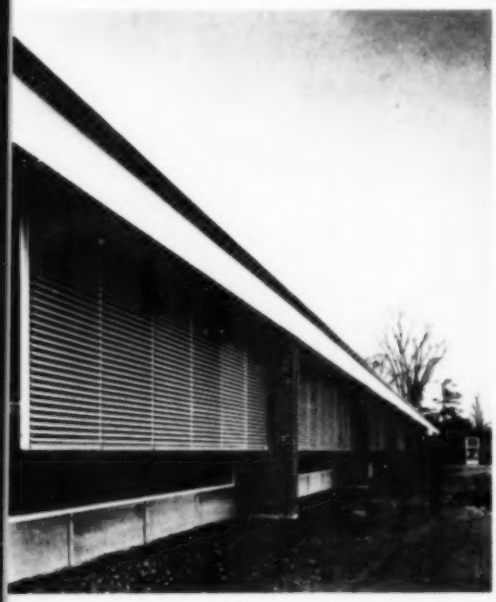


The new main entrance (above) *is in a one-story, central unit that connects the classroom wings and the old schoolbuilding; administrative offices are at right of the entrance lobby.*

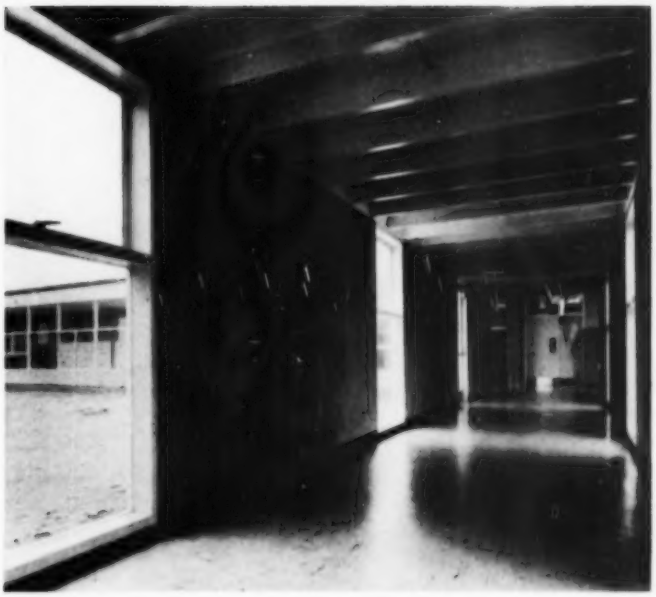
The west (corridor) walls of the two classroom wings (right) *are made up of glass areas set in wood frames, with base panels of asbestos cement and a band of 1″ x 6″ vertical wood siding surfacing the cantilevered superstructure.*

Photos: Lionel Freedman

The three photographs at the top of this page document the devices used for classroom light control—exterior metal louvers outside the big east windows (right and below, left) *and the corridor louvers across the bottom portion of the window strip above coat lockers* (below, right). *Notice the sawtooth arrangement of the classroom side of the corridor and the architect-designed door hardware that combines handle, vision panel, push plate, and lock in a single unit.*



Joining the two classroom wings is a wood-framed, enclosed passage (right and above), *with full-height window and door openings alternating with plywood wall areas that may be used for student art exhibits. Top panels of the window units swing out; bottom panels are fixed.*



junior high school: Darien, Connecticut

The library is centrally located, immediately to the left of the new main entrance. Instead of one large room, it consists of main reading room, work room and central control point (background, center of photo), *a room for special studies and reference* (behind workroom), *and a lounge corner* (left of photo) *from which a door opens onto a small patio. To daylight the interior portion of the main room, three plastic-bubble domes are aligned in the center of the acoustic-tile ceiling.*

The south-facing cafeteria-multipurpose room borders the corridor leading back to the gym. A plan refinement that speeds operations and reduces collisions to a minimum is location of the tray-return room at opposite end of room (background of photo) *from the serving kitchen; the curtained platform at this same end of the room is for the teachers' dining or it may be used as a small stage for speeches, audio-visual teaching, etc.*

The science classroom (left) is one of four that occur in the east classroom wing.

The John Goddard Belcher Gymnasium was named in memory of the late publisher of P/A, who was Chairman of the Building Committee when the school was designed. Bands of directional glass block line the tops of side walls; roll-out bleachers seat 600. Note the 36" WF beams that span the 82-ft width.

On the floor below the gym, in addition to shower and locker rooms, are the home-making department, art workshop, and crafts room (left).

classroom lighting: Darien Junior High School

The objective of all natural-lighting design is to utilize daylight so that it will produce (1) a level of illumination across and throughout the room that is as even as possible and (2) brightnesses throughout the field of view that are both comfortable and conducive to maximum visual performance. For years, architects and engineers have thought primarily in terms of providing daylight as efficiently and uniformly as possible through window proportions. Brightness relationships, when considered at all, were varied by the use of shades or blinds to cut out offending brightness areas (reducing quantity of light as well). Manually-controlled devices have not been satisfactory because the required constant readjustments are rarely made.

Practical experience and laboratory studies have now been united to demonstrate that designers must place equal emphasis on quality as well as quantity of illumination. Quality concerns the effect of lighting on the eyes—does it make one feel comfortable and does it make working seem easy? From laboratory studies it has been found that when extremes of brightness differences between various parts of the field of view are eliminated, there results a comfortable and efficient visual environment. As one looks from his task to the immediate surroundings, such as the desk, the eye maintains its good performance if it does not have to adapt to a brightness lower than one-third of the task. If the surroundings are more remote from the task, it has been reasoned that a greater departure in brightness relation can be permitted because it does not play as vital a role in efficient vision as the immediate conditions around the task.

Direct sunlight entering a room produces brightnesses far out of proportion to those in other parts of the room and results in discomfort, glare, and inefficient vision due to extreme changes to which the eye must adapt. Even on overcast days, the sky is far brighter than any area within a building and large areas of sky in the field of view may be uncomfortable. It is always necessary, therefore, to equip the fenestration with some type of shielding medium to minimize direct sunlight entering the room. Recommended brightness ratios have been set forth in the "American Standard Practice for School Lighting" as shown *(Table I)*. In order to achieve these conditions, all light sources, both daylighting and electric, must be adequately shielded, the illumination must be well distributed, and the reflectances of desks, floors, walls, chalkboards, and ceilings should be related and kept within prescribed limits *(Table III)*.

In the design of the fenestration for the Junior High School, for Darien, Connecticut, the architects' aim in light control was not only to eliminate direct sunlight on the task, but also to reduce sky glare. For uniformity of lighting, bilateral fenestration was considered mandatory. Louvers, installed on both exposures (exterior walls of classroom and corridor face east and west respectively), eliminate direct sunlight and reduce the average brightness of the glass areas as seen from the interior. The eyes adapt to the average of the louver brightness and the brightness of the sky visible between the louvers. Angle tilt and spacing of the 3" fixed louvers (30 degrees from horizontal and 2-½" apart) render exterior objects visible to the occupants. Light from the corridor side enters the classroom almost completely by reflection from the corridor floor *(Figure 2)*.

The original design provided louvers approximately 2' away from the outside sur-

* *Technical Director, Illuminating Engineering Society.*

Table I—Recommendations for Limits of Brightness Ratios[1]

	Ratio
a. Between the seeing task and immediately adjacent surfaces, such as between task and desk top, with the task the brighter surface[2]	1 to ⅓
b. Between the task and the more remote darker surfaces in the surrounding visual field, such as between task and floor	1 to 1/10
c. Between the task and the more remote brighter surfaces in the surrounding visual field, such as between task and ceiling	1 to 10
d. Between luminaires or windows and surfaces adjacent to them in the visual fields	20 to 1

[1] "American Standard Practice for School Lighting"
[2] Chalkboard and some art and shop tasks are illustrations of cases where the reverse ratio of 1 to 3 may apply.

Table II—Brightness Ratios: Darien Junior High School

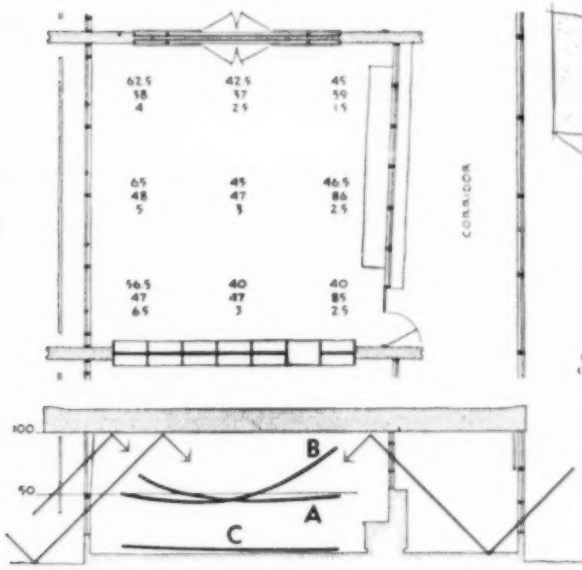
	Sunny day	Overcast day
a. Between white paper and desk top	1 to ¾	1 to ½
Between chalkboard and adjacent tackboard	1 to 2	1 to 2
b. Between paper on desk and floor	1 to ½	
Between chalkboard and brick wall	1 to 1	1 to 1
c. Between paper on desk and average of louver and sky brightness	1 to 35	1 to 25
Between chalkboard and corridor ceiling	1 to 10	
d. Between clear sky seen between louvers and louvers	14 to 1	6 to 1

Table III—Reflectances[1]

	American Standard Practice Recommendation	Darien Junior High School
Ceiling	80-85	75-80
Floor	15-30	40
Wall	50-60	
brick		20
tackboard		70
Desk tops	35-50	45

[1] Percentages

by C. L. Crouch*



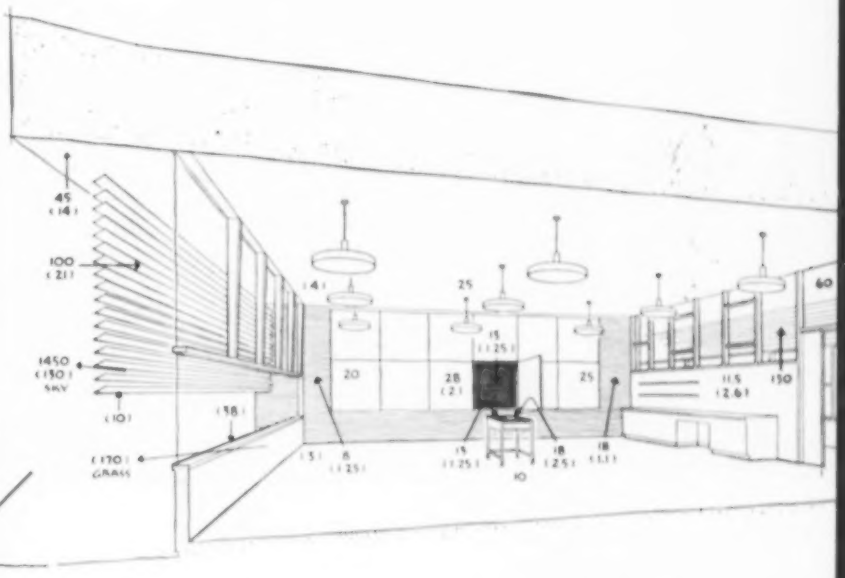


Figure 1—illumination values in footcandles (above, top). *Upper numbers indicate value predicted from study of model; center figures show measurement with sun on corridor fenestration; bottom quantities are for dark, overcast day.*

Figure 2—illumination distribution across center of room (above). A—*predicted from model for uniform sky (1000 ft-L);* B—*measurement with sun on corridor fenestration;* C—*dark day (500 ft-L).*

Figure 3—brightness distribution on sunny day (4500 horizontal ft-c in sunlight, 560 ft-L overhead, 2100 ft-L at east horizon) with direct sunlight (5700 vertical ft-c) on corridor fenestration. Values for dark, overcast day (500 ft-L uniform sky) are indicted in parentheses.

face of the exterior classroom wall and on the corridor side of the glass between the classroom and the corridor *(photo, page* 91). Later experimentation, however, has shown advantages in moving the latter set of louvers to the inside of the exterior corridor wall: less change in eye adaptation when entering the classroom from the corridor, greater feeling of space within the classroom, and cooler corridors. All of the following observations are for a classroom with this new arrangement.

The brightness distribution with the bilateral fenestration is shown for both a bright and dark day, as well as the excellent quality of the resultant interior brightness distribution *(Figure 3 and Table II)*. Interior reflectances measured at Darien and those recommended in the "American Standard Practice for School Lighting" are also compared *(Table III)*. From an illumination standpoint, the brick masonry is much darker than is usually considered desirable for walls. Since much of the brick area is adjacent to the window, however, under daylight conditions the brightness distribution is still within the limits recommended *(Table I)*. In addition, most of the wall surface within the field of view is covered with tackboards.

In the preliminary planning of this structure, the architects submitted several designs to W. W. Caudill, Bob Reed, and E. E. Vezey of the Texas Engineering Experiment Station for testing under a simulated diffusing sky. Without sunlight and assuming a 1000-ft-lambert sky, the researchers predicted the values shown *(Figures 1 and 2)* for the design finally selected. Values measured in the finished classroom under a uniform sky (approximately 500-ft lamberts) and on a bright day with sunlight falling on one side are also presented *(Figures 1 and 2)*. The distributions do not agree exactly, due to the sunlight, different ground reflections, and the use by Caudill and his associates of a different interior reflectance pattern and a different reflectance of louvers.

These illustrations show that with sunny conditions, the illumination is adequate.[1] On a heavily overcast day, the daylighting is very inadequate—a condition, however, that is true with any kind of fenestration. (Suitable high-quality electric lighting is necessary to provide the lighting on dark days in all structures.) Note the excellent uniformity of illumination throughout the room as compared to the nonuniformity from window to opposite wall for commonly used fenestration. This uniformity, in conjunciton with the favorable brightness ratios that exist *(Table II)*, demonstrate the effectiveness of this design.

[1] *The "American Standard Practice for School Lighting" recommends 30 footcandles for regular classrooms.*

location	Austin, Texas
architects	Fehr & Granger
structural engineers	Wilson & Cottingham
mechanical engineer	George R. Rhine
general contractor	R. P. Farnsworth Co.

school cafeteria, gymnasium and auditorium

Texas is a land of Midas and no dimension. With its racial and linguistic differences, its farflung population, its abundance and areas of desolation, obstacles to education are indigenous. But from the day of the Spanish padres, who taught the Indians, Texans have set in motion a vigorous program of education.

In Austin, the old 16-classroom Becker Elementary School sprawls over an entire block, with only a makeshift dining hall and token play areas. New buildings had been sketched. New footings were in place. But to build on an already overcrowded site would only add to existing confusion and further limit green areas. The project was effected, however, after the Austin Zoning Board gave permission to extend frontage restrictions of the site.

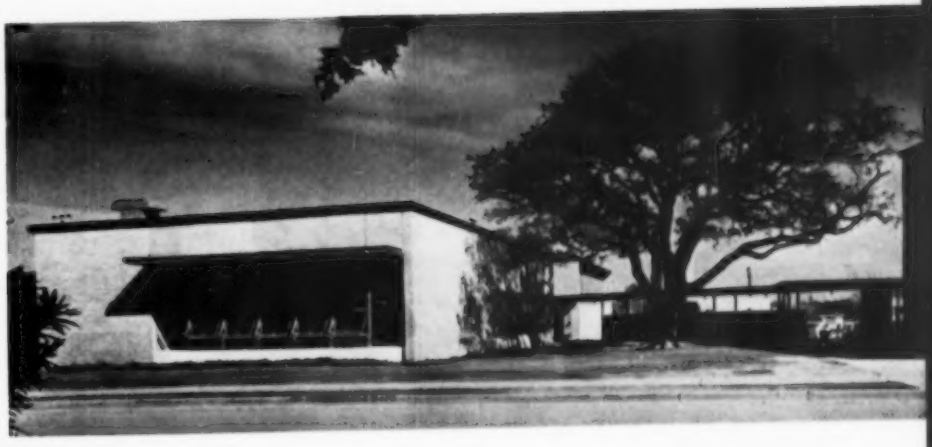
Occupying the south and west sides, the additions group the gymnasium and auditorium about a playing field. A cafeteria unit is developed with an interior court about a massive oak, the most striking element of the site. Kitchen, storage, and delivery facilities, all upon the service side of the building, open a large dining area on a garden. And together with the gymnasium, the cafeteria is linked to the auditorium by a simple roof plane bordered by a stone wall.

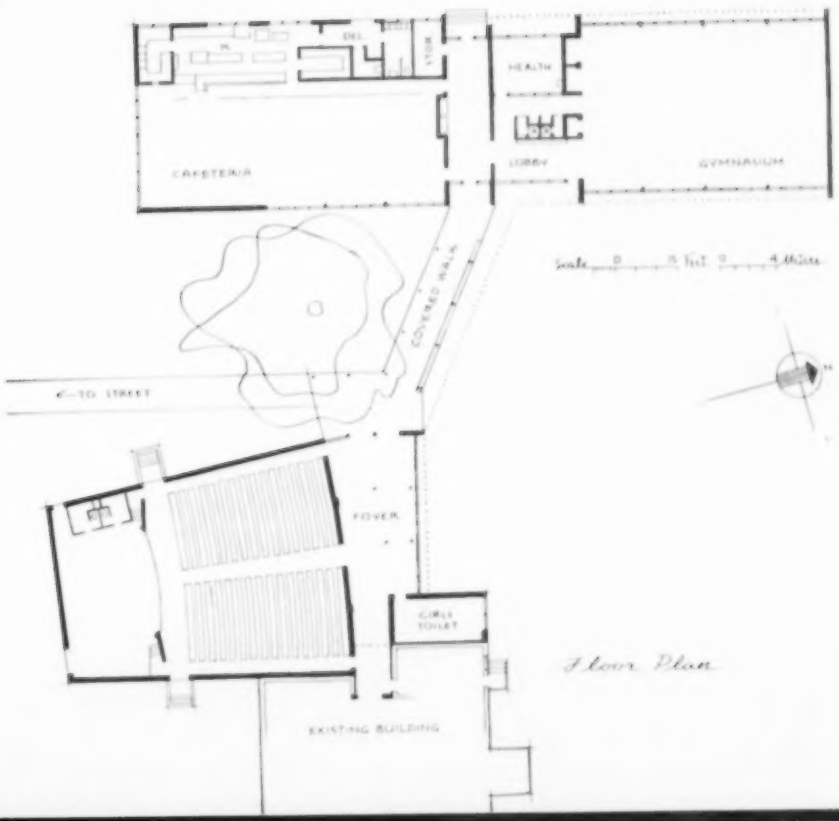
A condition in the school requiring special emphasis was presence of students from substandard areas. For their use, showers were placed near the Health Room of the gymnasium, and supervision with privacy was permitted by one-way glass panels. No lockers or dressing rooms were necessary, since the gymnasium serves largely as a playroom with limited activities and no major athletics.

Structurally, units are framed with steel, their walls of brick and hollow tile. Precast concrete decks have composition roofs over 2″ vermiculite insulation. And floors, on reinforced slabs cast at the site, are terrazzo, cement, and wood (for gymnasium and the auditorium stage). A color pattern is set by finishes within, similar to the exterior on which the orange-red of the brick and cream of the tiles contrast with the spray-green trim. A centrally located natural-gas-fired boiler supplies heat to coils in slabs of the gymnasium-cafeteria unit and the forced-air system of the auditorium. Noise is conditioned by acoustic tile and plaster. At present, metal trusses are exposed, but a ceiling will be hung to offset the cacophony of the cafeteria concerto.

On entering the school, and from within the dining area, children view the giant oak in a garden created between cafeteria and auditorium. In the distance, the gymnasium borders on the playing field (right).

Covered passageway (below), *connecting the attached cafeteria-gymnasium to the auditorium, supported by lally columns and having a cement-plaster soffit, is screened by a masonry wall.* Photos: Ulric Meisel





Floor Plan

Light-diffusing glass from gymnasium windows above eye level offset skyglare (acrosspage).

Entrance to auditorium, from the covered passageway linking units, opens upon the playing field of the school (right).

In the auditorium, catwalks are installed above a suspended ceiling to change lighting easily. Acoustic tile is a soundproof measure; lighting, by cove and recessed fixtures (acrosspage).

A window wall facing the street helps ventilate and add light to the service end of the cafeteria. Floors are terrazzo; structural-steel trusses and lighting are seen temporarily exposed (right).

humidity control for schools

A valid point supporting the installation of humidification equipment in school buildings was provided by the publication of a research report by Drs. Theodore T. Puck and Edward W. Dunkin,[1,2] in which it was announced that air with a relative humidity of 50 percent will actually kill bacteria spread by coughs and sneezes. This discovery is particularly important today when so many American schools are critically overcrowded and there is a greater danger of the spread of contagious diseases.

According to the Puck-Dunkin report, and also experiments of Dr. William Lester, Jr., air with 50-percent relative humidity has its maximum lethal effect upon cold germs, bacteria causing sore throats and other respiratory irritations, scarlet fever, and certain types of pneumonia germs. For example, in experiments made with air of middle-range humidity, the influenza virus was found to lose almost four-fifths of its infection power. These reports are also substantiated by information released by the U. S. Public Health Service (*Chart I*).

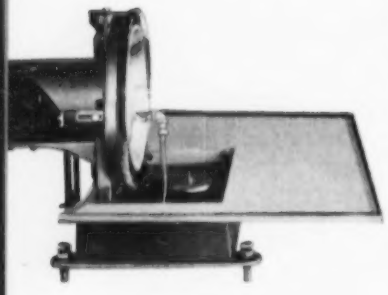
Biologically, the reason for the germ-killing property of air at a certain percent relative humidity is explained by the fact that a moderate rate of dehydration of saliva globules causes the salt content of the saliva to become concentrated into an antiseptic solution which, due to the slow evaporation of the moisture, remains in contact with the germs long enough to kill them. In the case of very dry air, these same germs are preserved in a harmless state but when inhaled they become reactivated on contact with the moist lining of the lungs, throat, and nasal passages. If there is excessive moisture in the air, on the other hand, bacteria remain constantly active.

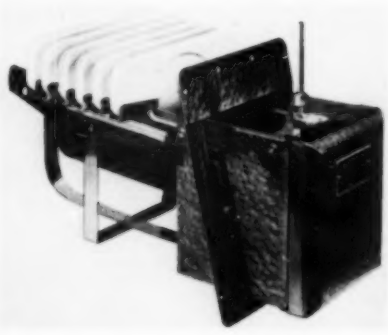
In school buildings which have central-heating systems, the installation of humidification controls is comparatively simple. Those equipped with unit ventilators operating from a boiler, however, are not suited to the addition of most types of humidification controls because of the installation problems involved and the prohibitive expense.

At present, there are two types of available humidity-control equipment. The elec-

[1] *Published in the Journal of Experimental Medicine, February 28, 1948.*

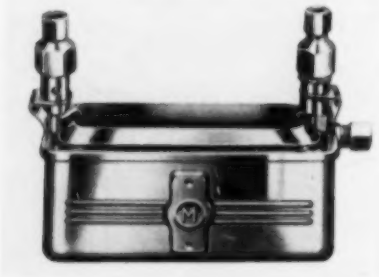
[2] *Similar conclusions were published by Dr. Watt W. Eagle in "Specific and Rational Therapy in Otolaryngology," Southern Medical Journal, Vol. 45, No. 8, August 1952.*

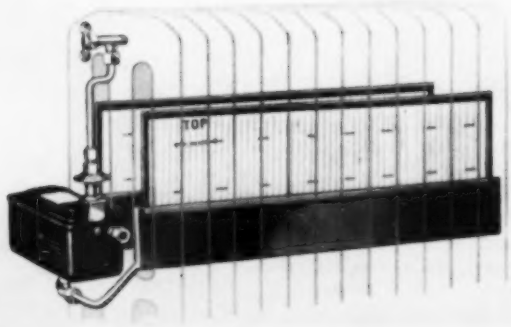




"Atomist" (left) *designed for forced-warm-air heating and ventilating systems, creates mist in air stream between blower and heat exchanger so that water particles will be vaporized in passing over heat exchanger. Plate-type humidifier with ceramic evaporator plates* (right) *maintains water supply by balance system.*

Photos: American Foundry & Furnace Co. Auto-Flo Corp.





Compressed-air-operated spray humidifier (above) *designed for manual or automatic control. Twin troughs* (right) *are inserted between sections of hot water or steam radiators. Water supply is maintained by float-controlled valve.*

Photos: Maid-O'-Mist, Inc.

by Morris Margolis*

trical type operates through moisture expanding or contracting a human hair or a metallic grid embossed on a plastic base; the movement of either the hair or the grid will activate the switching mechanism.

In the case of the pneumatic type of control, the installation is either on the duct work itself with the sensing element extending into the duct or directly in the path of the normal air circulation. In these instances, the amount of air escaping from the nozzle controls the increased or decreased amount of humidity.

Any one of three types of moisture-introducing units may be attached to the controller mechanism, depending upon the type of heating unit installed. In forced-air heating, a mechanical mist generator located in front of the blower breaks water into very fine particles without the use of heat. This mist, blown past the warm-air heater, is immediately absorbed by the warm air and transmitted through the pipes to individual rooms. A stream of water is forced against a metal comb at high velocity by a small centrifugal pump. Governing the rate of mist generation is the controller mechanism which increases or decreases the flow of the water according to the humidity content of the air.

With installations of central-fan heating, humidifiers of the pan or injector type are used. The pan variety is applicable to steam-pressure systems of five pounds or more. The pan, constructed of heavy copper, tinned on the inside, holds the water to be evaporated. Water level is controlled by a copper float activated by a controller mechanism. Fitted into the pan above the water level are steam coils which supply heat to speed the process of evaporation in the pan. In order to insure the best results, it is recommended that this type of humidifier be installed between the tempering coil and the fan.

The injector type of humidifier is most suitable when the heating system is low-pressure steam. If this type is selected, clean live steam must be used since it is sprayed directly into the air.

Controlled experiments demonstrating the advantages of proper humidity, the continued development of improved humidification products (*see illustrations*), and the increased number of such products indicate there undoubtedly will be a wider consideration of humidity controls for school installation in the future.

* *Assistant Secretary, The Humidifier Association.*

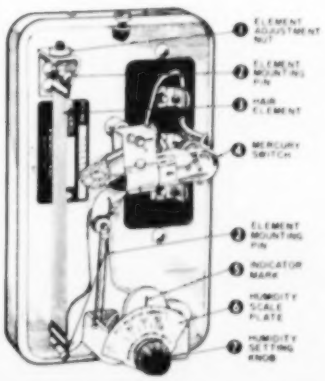
Chart I—Degree of correlation between periods of lowest relative humidity and periods of highest rate of respiratory disease.*

Month	Average indoor relative humidity (percent)		Total number of cases of respiratory disease per 1000 population
July	59		17
August	56		20
		High humidity — Good health	
September	51		23
October	40		29
November	20		40
December	12		58
January	12		92
		Low humidity — Poor health	
February	14		102
March	18		89
April	25		55
May	35		35
		High humidity — Good health	
June	57		22

* Source: U. S. Public Health Service

Suspended from ceiling, these humidifiers (below) can be installed singly for small spaces or in any multiple for large rooms; plug-in operation.

Photos: Walton Laboratories, Inc.
Bahnson Co.



This humidity controller should be installed on wall of space to be humidified, except when used with central-fan heating or air-conditioning. In the latter cases it should be mounted in return-air duct.

Photo: Minneapolis-Honeywell

location	Macon, Georgia
architects	League, Warren & Riley
general contractor	H. L. Freeman

HOUSE

To Georgia farmers, the ubiquitous plantation field shed with its tin roof white in a summer sun and its thin stilts supporting sharply-angled planes, has a humble familiarity. To the critic or designer, it is a humility nearing eloquence.

Set deep among longleafed pines, this suburban Macon house faces west, on a site sloping to the south. It was planned for a budgeting, servantless couple with two children, who sought utility and privacy. They wanted a design suitable to the area—one devoid of pretense and display. To do this, the architects closed the street side of the house and grouped rooms around an interior terrace. Then two entrances were planned about a sheltered service court, linking the carport to the living areas. With its broad roof penetration, more light was admitted to the kitchen, and the sense of an expanding volume was intensified. A wide bedroom hall, doubling as a play area, made all the rooms accessible to the kitchen.

Materials and colors were chosen as a relief from the faded red brick of neighborhood homes. Redwood siding contrasts with oyster-white asbestos shingles, recalling the infinity of shining roofs atop gnarled-plank farm sheds. Within its limitations of convention, there seemed to follow a solution consistently sympathetic.

Redwood screen around drying yard, with storage closets adjacent to carport, leads to living room and kitchen entrances (below). *Essentially a frame structure with a steel ridge and flat steel bracing, the house rests on a concrete slab over hollow tile. Floors are finished with brick and asphalt tile; walls, painted plaster on lath. Insulation is 4" wool-type bats; forced air, warmed by a gas burner, supplies heat.*

Living room (right) *opening on an interior terrace has high windows (giving cross ventilation) on the street side, for privacy.*

Photos: Richard Garrison

Self-contained dining area, opening on terrace, may be separated from the living room by a drapery. As an extension of color within the house, brick masonry is painted oyster-white, while beiges and terra cottas contrast with yellow-and-black asphalt tiles (left and below).

Affording adequate space for meals, laundry, and hobbies, the utility area and kitchen (below left) *are interconnected.*

accounting for architects, part 1

*by Claire Trieb Slote**

Like professional men everywhere, architects often tend to regard professional accounting with indifference if not outright neglect. But since the architect, like the corner grocer or the president of a steel company, is in business to make money, he can hardly afford to ignore this essential profit tool, especially with the competitive situation what it is today.

Large business, and more recently small enterprise too, realizes the need for objective accounting guidance in such vital business problems as:

How to make legitimate tax savings.
How to insure accurate, revealing records.
How to detect financial disaster warnings.

Working as he does in dozens of industries, the certified public accountant can bring to the architect the benefit of his diversified experience with all. Don't mistake him for a glorified bookkeeper. While he does deal with your books, it is to act as a channel of communications between you and your profits.

Following are a few examples of the ways in which objective accounting practice has aided architectural firms.

are you overtaxing yourself?

Taxes are high enough as it is, but (surprisingly) many businessmen add to the burden by overpaying. According to the experts, there are two common causes of mistakes—ignorance of legitimate allowances and failure to plan ahead for the tax implications of year-round transactions.

Typical is the New York architect who summoned an accountant for a routine check and was amazed to learn that the government owed him $500. Why? This man's wife had been working in his office for three years at $60 a week: her husband paid federal social security and federal and state unemployment insurance taxes on her salary.

"You aren't supposed to pay those taxes on a wife, nor should she have been making employe contributions," the C.P.A. pointed out. Since these amounted to 5% of her salary for 1949 and 6% for 1950 and 1951, the couple had made unnecessary contributions of more than $500 to Washington and Albany. The accountant promised to drop around with refund applications next morning.

Tax considerations should enter into every business move. It's the only way to avoid head-holding on March 15. Take the case of Architect John Smith who decided to give his place a much-needed face-lifting:

He called in a contractor for prices on the following work: repairing a few bad spots on the roof; replacing the coal furnace with oil; relocating steam pipes; installing a modern electrical wiring system; mending broken plaster; painting the walls and ceilings; building new shelves; and remodeling the office lobby. Smith assumed that he could deduct all of this on his tax return under the heading of "repairs." Had he done so, he would have forfeited a $6000 deduction.

Luckily, he checked first and learned that repairs are deductible but improvements are not. The U. S. Treasury regards as repairs any measures taken to keep the property in reasonably good condition without adding appreciably to its value. In this instance, the Treasury would consider as repairs only the roof-mending, the relocation of steam pipes, the painting, and the mending of broken plaster—which came to $6000. Everything else would come under "improvements," which are simply depreciable.

If repairs are made at the same time as improvements and a separate itemized record of them is *not* kept, the repairs may be considered improvements—and no deduction allowed on the whole works!

* This article was prepared with the co-operation of the American Institute of Accountants, national professional society of certified public accountants.

As a result, Smith had two separate contracts drawn up with the builder: one for repairs, the other for improvements. He was able to deduct his $6000 repair bill when tax time came around.

An unexpected by-product of this experience was the advice he was able to pass on to a client contemplating similar work. Often it's as important for an architect to know about tax laws as about building codes.

records reveal all

Unfortunately, it often isn't until the businessman has been spurned on important bank loans that he comes to appreciate the vital link between his diminishing working capital and his record-keeping system.

When called in on such situations the C.P.A. tries to uncover basic causes of difficulty, many of them traceable to faulty record-keeping. As a survey of 408 bankrupt businesses revealed, 53 percent of the casualties kept no adequate records.

To cite only a few common symptoms of financial troubles in architectural offices:

1. One architect who was disturbed because year-end profits seemed lower than he had reason to expect—considering the satisfactory volume of business—made this discovery after completion of a thorough accounting check: his office was spending too much time on each job. True, the draftsmen kept timesheets on each project, but the system had bogged down. For one thing, the architect had never arrived at a method for translating these records into realistic dollars-and-cents costs, in terms of accurately allocating overhead to each job. Moreover, by the time the timesheets were tallied up, it was too late to do anything about *preventing* too much time lost in checking of shopdrawings and large-scale details for ornamental work. Because of this lag in information, this architect was continuing to set his fees on new jobs as unrealistically as on the existing ones.

2. Another architect, who decided on a record audit to explain his financial troubles, discovered that one drain on his profits was due ultimately to inadequate supervision. It seems his staff was turning out contract drawings rapidly enough—in fact, too quickly. Most of them required extensive rechecking, a wasteful practice that was cutting heavily into his profits. One senior draftsman assigned to supervise all drawings, he decided, would be a worthwhile investment in the long run.

3. On the other hand, there's the case of the architect who found that eliminating a top job was the solution to his hidden costs headache. Accustomed to doing small homes, this man was getting his toe into industrial plant work. He'd hired a full-time structural engineer to work on these jobs. However, a careful check of his records revealed that actually this new volume wasn't adequate to justify the engineer's services. As a result, he realized that it would be more economical in this particular case to "farm out" this work, as needed, to an outside engineering firm.

disaster warnings

No one but the business owner himself can —or should—make the decisions affecting his business. But, by the same token, the decision-maker should arm himself with the best available information on which to base his moves. Accounting supplies this data, and supplies it objectively.

For the average small firm, a C.P.A. can set up a record-keeping system to be administered by the owner himself, with only monthly or quarterly audits. An added *plus* is the fact that the accountant familiar with the business is then available for consultation on the accounting aspects of insurance, credit, and legal questions. He's also the man whose opinion is respected when banks request facts concerning a business.

Use his services according to your firm's particular needs. But at the start of any relationship with him there are some basic questions which all businessmen should ask. Here is a list suggested by the American Institute of Accountants:

Am I taking advantage—especially through advance planning—of legitimate tax savings?

Are there any overhead or other costs I haven't included in my pricing?

Are my finances under control?

Have I missed any logical places to shave costs and expenses?

Do I seem to have adequate insurance coverage?

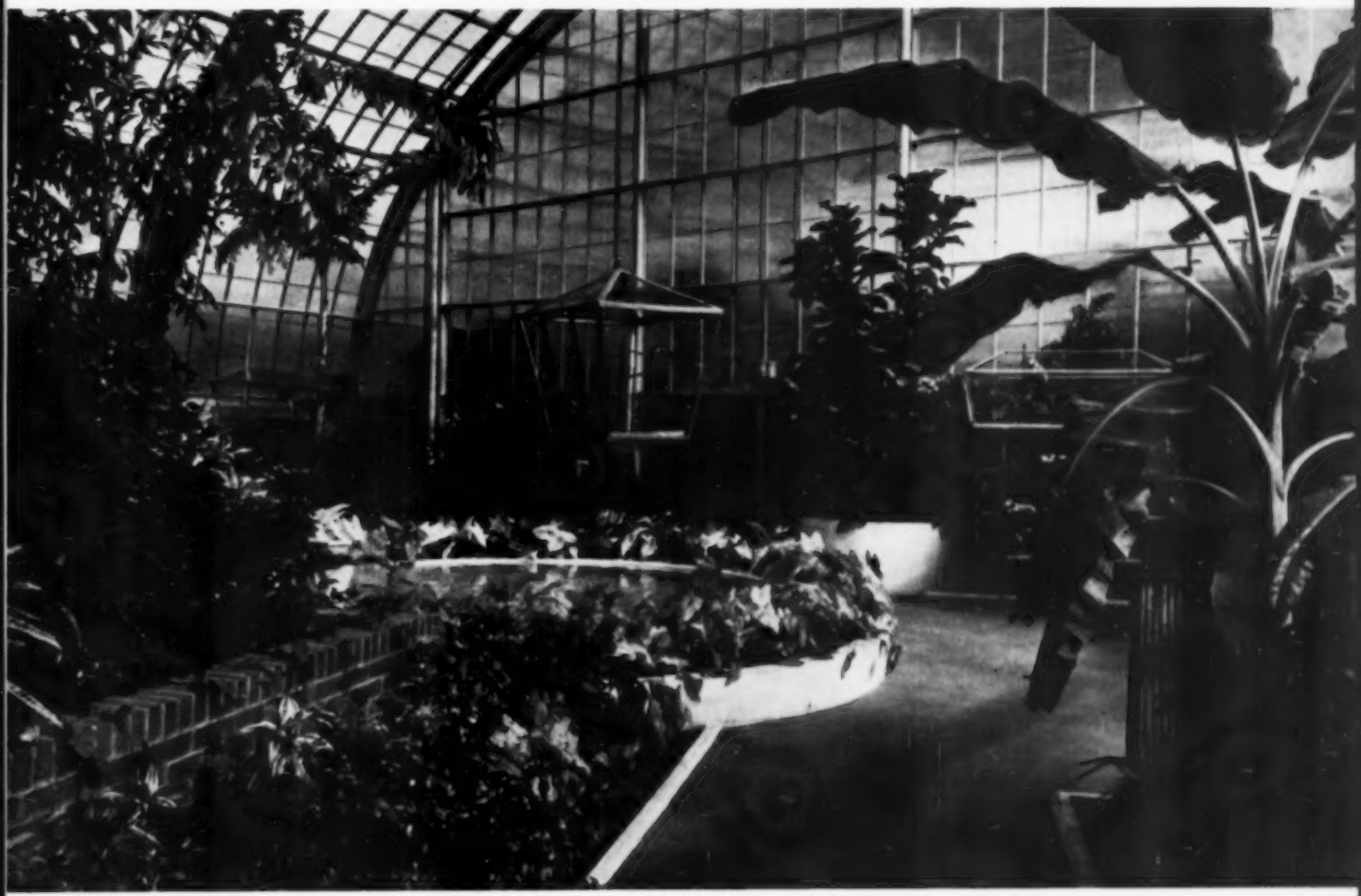
Generally, do you think my business is in good health?

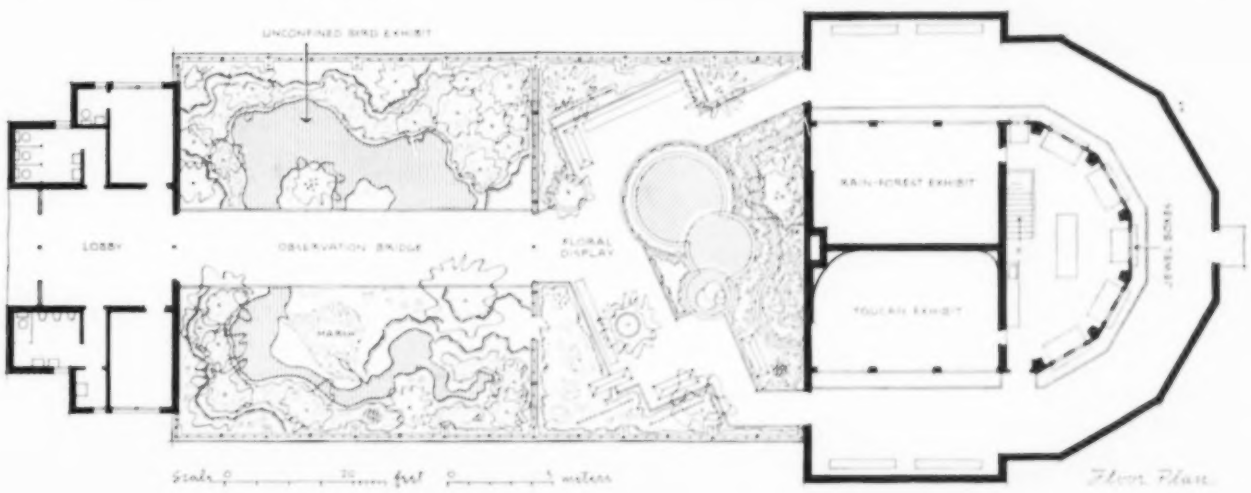
No businessman in his right mind would consider building a new structure without an architect and a plan. Oddly enough, the planning concept so essential in *constructing* a place of business is ignored when it comes to *conducting* the business.

Scientific accounting serves as the architecture of business. It can prevent losses by raising danger signals of structural weakness far enough in advance to avoid some major crises.

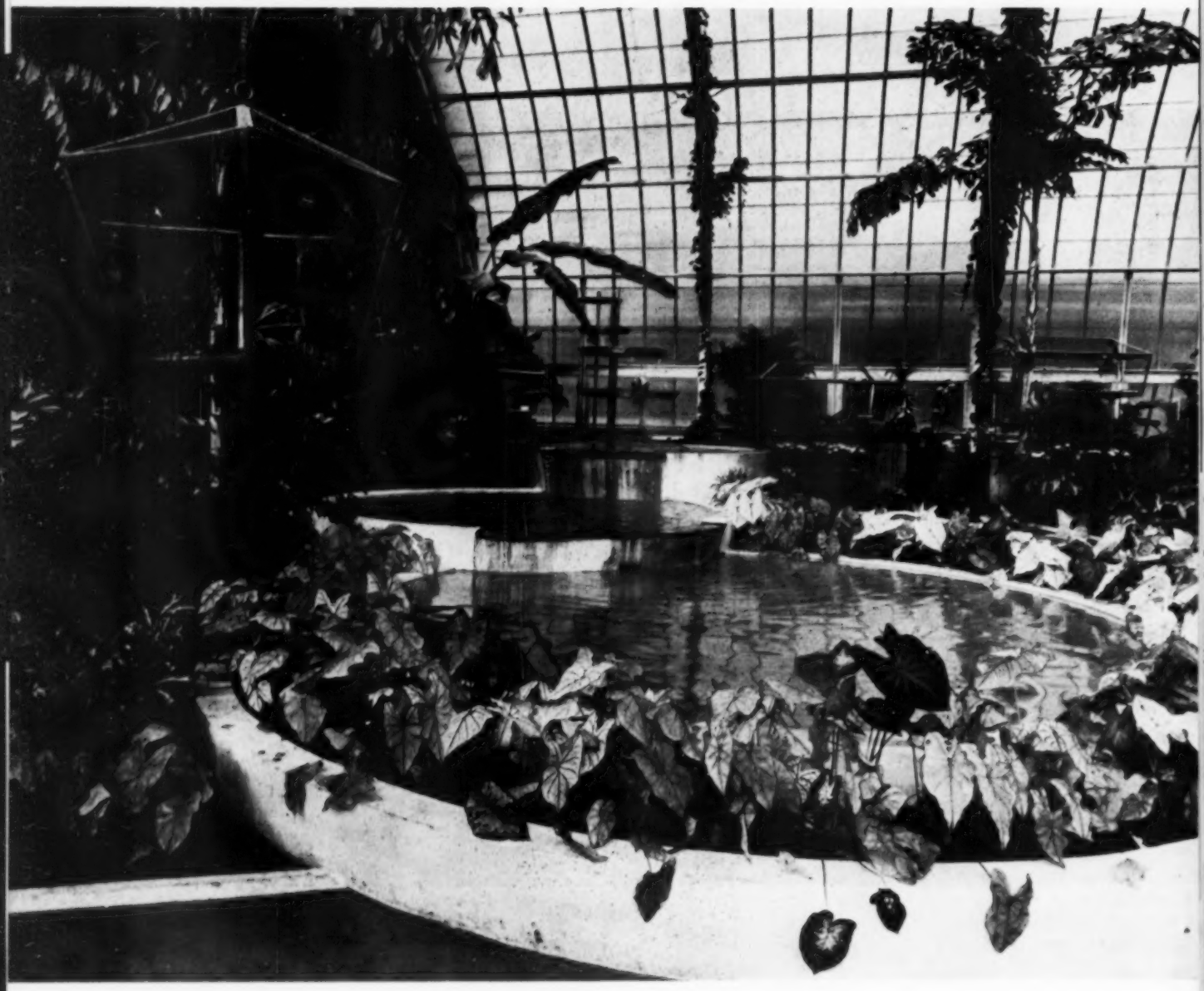
location	West Park, Pittsburgh, Pa.
architects	Button & McLean
structural engineer	R. A. Zern
landscape architects	Simonds & Simonds
general contractor	Branna Construction Corp.

conservatory - aviary





conservatory—aviary



Passing through the doors of the new Conservatory-Aviary is a challenging experience for visitors, who find themselves amid the lush foliage of a tropical jungle and who may, at any moment, see the flash of a ratchet-tailed drongo, hear the beguiling notes of the mimicking myna bird, or suffer the lunacies of West Park's arch-buffoon, the toucan. One instant, the air may be heavy with an impending silence; the next may transform it into a shrill and festive patchwork of life.

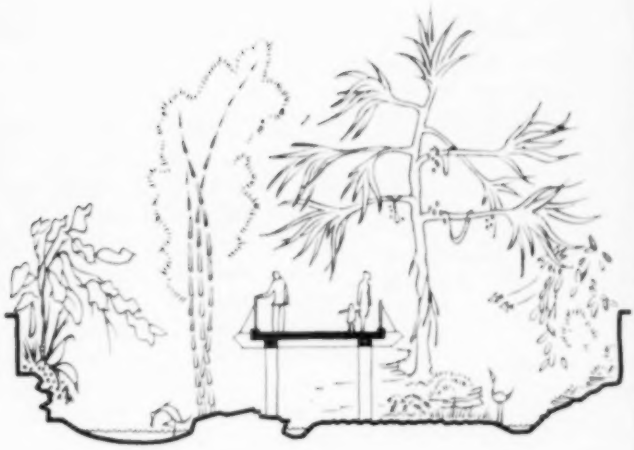
In seeking to "house exotic birds and plants in their natural habitat," Lamont Button, the designer, created a glass shell within which birds move unconfined. All tastes are satisfied, for displays include humming birds poised in their "jewel box" cages, a rain-forest exhibit with birds flying through thin spray mists, and in subdued contrast, the floral display room. Within the free-flight area, with its hundred species, visitors may cross a bridge to find a marsh, a lagoon, or a miniature waterfall—an ever-changing and colorful panorama.

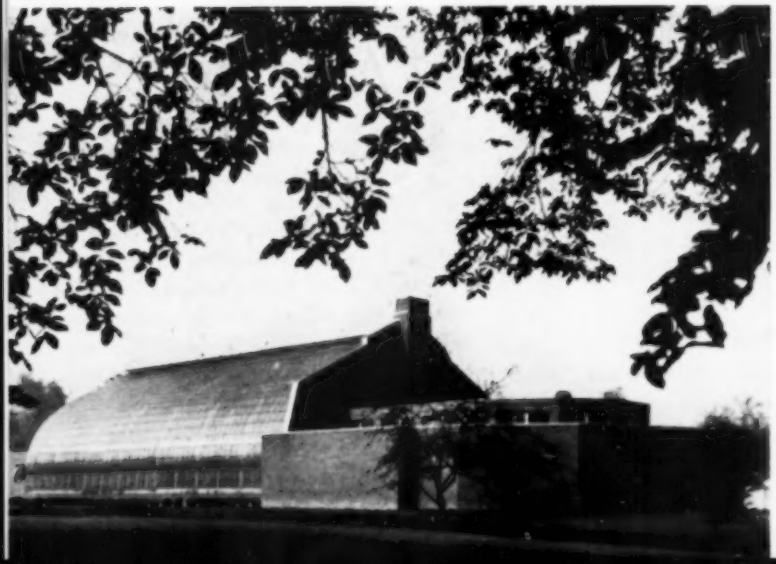
It is in this free-flight room, though, that the imagination is stirred. For while visitors stand amid fiddle-leaf fig trees, canes, bananas, and papayas the tanagers and honey creepers swing in flight overhead. And as the visitors stare at birds they can see, they search eagerly for other hidden ones they can hear. In this dreamlike setting, filled with rare plants and birds, the people are literally intruders.

A bridge extends the entire length of the unconfined bird exhibit, which accents motion and sound in every way possible and focuses interest upon the tropical setting and the bird colors (right).

Within the floral display room (above), *a marked contrast to the free flight area, the lushness of vegetation is subdued.*

Photos: Neuman-Schmidt Studios





Northeast elevation shows the two structural systems employed in the Conservatory-Aviary. Brick masonry walls house the toucan, rain-forest, and "jewel box" exhibits; steel ribs and glass frame the unconfined bird area.

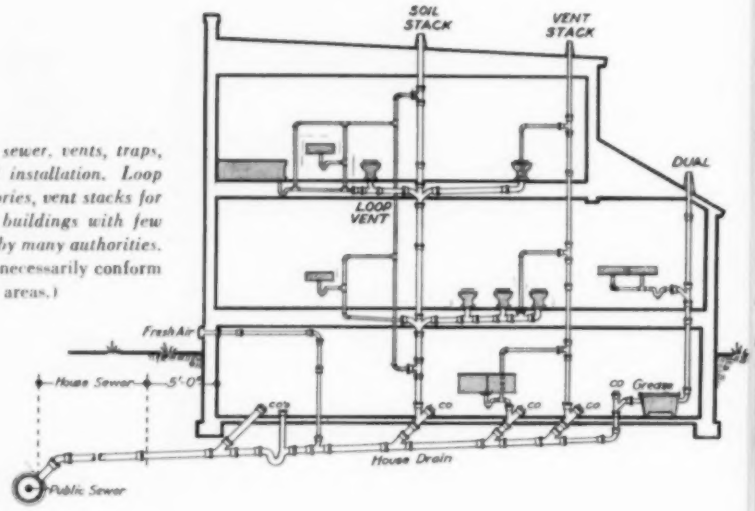


Figure 1—stacks, house drain, building sewer, vents, traps, and clean-outs are shown for a typical installation. Loop venting is used for buildings up to six stories, vent stacks for taller buildings. Venting for one-story buildings with few fixtures on one floor is not recommended by many authorities. (Drawing is diagrammatic and does not necessarily conform with local codes or trade practice in all areas.)

cast-iron soil pipe

by Don Graf*

Three reasons for a condensed review of cast-iron soil pipe at this time are: (1) There has been no shortage of the material and none is anticipated in the foreseeable future—contrary to the opinions of some. (2) Instead of the three weights formerly available, i.e. standard, medium, and extra-heavy, there are now only two types and these do not agree in dimensions and weight with any of the three that were superseded. (3) Good practice demands the use of cast-iron pipe under many conditions. Building laws recognize this fact as cast iron is the only material that is nowhere prohibited for use underground or inside the building in its waste system.

waste drainage system

The high point in a building waste-drainage system is the top of the stack above the roof; the nether point is the connection to the public sewer or private septic tank (*Figure 1*). Between these extremities there are three divisions of piping that carry away the building wastes. Including the vents, traps, and cleanouts required, the extent of each of the three parts is fixed by the following typical specification paragraphs:

(1) "Run the house sewer (also called building sewer) from the connection with the house drain to discharge into the street sewer (septic tank)."

(2) "Run the house drain (also called house sewer) from a point 5'-0" outside the inner face of the building wall to connect with the vertical stacks."

(3) "Properly connect stacks to the house drain and up full size through the roof."

current sizes and weights

According to Federal Specification WWP-401 and Amendment 3, cast-iron soil pipe is being manufactured in service and extra-heavy weights. Dimensions for the various sizes and weights of these two types are shown (*Figure 2*) to the nearest 32nd of an inch in common fractions. The size of pipe is its inside diameter; weights are for single-hub pipe (*as illustrated*). Pipe with hubs on both ends is known as double-hub pipe and is somewhat heavier per length. It is used to piece out fractions of full lengths by cutting. Lengths of all pipe are so designed as to give a laying length of 5'-0". Fittings for any change of direction are illustrated (*Figure 3*).

use of different weights[1]

Where is service or extra-heavy weight cast-iron pipe suitable for use? About 40 years ago, the Subcommittee on Plumbing of the Building Code Committee, U. S. Department of Commerce, stated: ". . . the A.S.T.M. Standard Specifications for Cast-Iron Soil Pipe and Fittings . . . call for the so-called extra-heavy pipe . . . based on a wall thickness of ¼-in. . . . so-called standard-pipe based on a thickness of only ⅛-in. The committee is of the opinion that extra-heavy pipe is unnecessarily heavy, but that standard-pipe is too light for the great majority of plumbing uses."

This report further states: "The committee favors the idea that the manufacturers of soil pipe, in co-operation with the A.S.T.M., should investigate . . . reducing the wall thickness . . . to between ⅛-in. and ¼-in. . . . to take the place of the extra-heavy and standard-pipe now in common use." Sometime after this recommendation was made, a medium-weight pipe was added to the old Standards and had a wall thickness of 3/16-in. The obvious advantage of two weights of pipe, instead of three, led the National Association of Master Plumbers to ask the manufacturers of cast-iron soil pipe to co-operate in devising a uniform specification for a weight of pipe lighter than extra-heavy. This co-operative study resulted in the current specifications for service-weight pipe.

A hint to the suitable choice of weights is found in *Farmer's Bulletin 1426*, issued

* *Ossining, N. Y.*

[1] *Service weight spigots will fit extra-heavy hubs, but not vice versa.*

by the Department of Agriculture, entitled "Farm Plumbing." It says: "Extra-heavy cast-iron soil pipe is generally used for soil stacks and all underground lines except the house sewer . . . Standard-weight is sometimes used on farms." It will be seen in the following text that extra-heavy is also unsurpassed for use as the house sewer. "Standard-weight" (now replaced by heavier service-weight) "is sometimes used on farms, but because of its lightness is more likely to be broken during shipment, handling, cutting, and calking."

Joseph E. Taggart, in *Plumbing Questions and Answers*, says: "The house drain and its branches must be of extra-heavy cast iron . . . except where light pipe is used for the drainage system and the house drain is above ground, when light pipe may be used."

In the HOLC's *Master Specifications* ultimate simplicity is reached: "Cast-iron soil pipe and fittings shall be extra-heavy cast iron or as otherwise specified."

In final analysis, the choice of service or extra-heavy-weight soil pipe for any particular installation depends upon the requirements of local or state plumbing ordinances. Where none exists, it is suggested that the Recommended National Plumbing Code be used.

life expectancy

No one will gainsay the premise that the drainage system should perform as long as the building lasts. The 'hooker' is that when a building is being built, nobody can foretell how many years it will continue to be useful. There are abundant examples of cast-iron pipe in use after 100 years. There are instances of cast-iron pipe outlasting the original building in which it was installed, then being salvaged and laid in another—to outlast that one as well.

The secret of this longevity seems to lie largely in the composition of the pig, and the position of cast iron in the electrochemical series. There are three kinds of cast iron: gray, semisteel, and white. Casting made from gray iron are known to the trade as cast iron. An appreciable fraction of carbon and small amounts of silicon are present in the pig. Particles of the iron are protected by the carbon, somewhat as portland cement coats the aggregate in a concrete mix. As a result, cast iron never corrodes more than "skin deep." The skin that forms prevents the metal beneath from rusting. If the thin coating is scraped off, bright metal will be exposed.

When two dissimilar metals are in contact in water containing hydrogen ions (having an acid reaction, i.e. an alkalinity factor "pH" less than 7), the metal higher in the electrochemical series will be corroded—the one lower protected. The series for commercial metals in ordinary use is thus: magnesium, aluminum, manganese, zinc (galvanizing), chromium, iron, nickel, tin, lead, copper. Zinc protects iron in a galvanized pipe, the zinc itself corroding. An iron plug in a brass-hot-water line will disintegrate completely in a few years. Water having had its hydrogen ion concentration increased by the use of alum (sulphate of alumina) in filtration may increase galvanic corrosion.

Theoretically, iron is liable to these forms of corrosion, but being midway in the series, the degree of such corrosion is so slight that it permits long-life records to be commonplace. Cast iron resists all acid or alkali wastes usually encountered in buildings; however, for strong chemical wastes, cast-iron pipe made especially for the purpose should be specified.

Some codes require a bituminous coating to be applied to both inside and outside of pipe, while others forbid its use. The erosion of the inside coating by flow soon removes it; it conceals possible defects in the pipe; it adds to the cost; besides, cast iron doesn't need it.

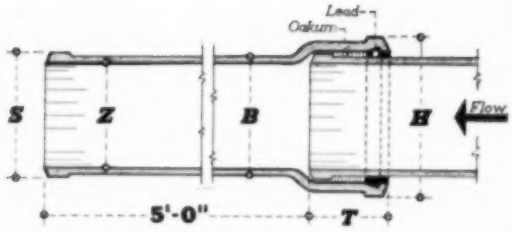


Figure 2—Service-Weight Cast-Iron Soil Pipe

Size (Z)	Weight per 5' length lbs	Outside barrel diameter (B)	Outside spigot diameter (S)	Outside hub diameter (H)	Telescoping length (T)
2	20	2 1/4	2 5/8	3 5/8	2 1/2
3	30	3 1/4	3 5/8	4 11/16	2 3/4
4	40	4 1/4	4 5/8	5 11/16	3
5	52	5 1/4	5 5/8	6 11/16	3
6	65	6 1/4	6 5/8	7 11/16	3
8	100	8 3/8	8 3/4	10 1/8	3 1/2
10	145	10 1/2	10 7/8	12 7/16	3 1/2
12	190	12 1/2	12 7/8	14 9/16	4 1/4
15	255	15 5/8	16	17 29/32	4 1/4

Extra-Heavy Cast-Iron Soil Pipe

Size (Z)	Weight per 5' length lbs	Outside barrel diameter (B)	Outside spigot diameter (S)	Outside hub diameter (H)	Telescoping length (T)
2	25	2 3/8	2 3/4	3 13/16	2 1/2
3	45	3 1/2	3 7/8	5 1/16	2 3/4
4	60	4 1/2	4 7/8	6 1/16	3
5	75	5 1/2	5 7/8	7 1/16	3
6	95	6 1/2	6 7/8	8 1/16	3
8	150	8 5/8	9	10 11/16	3 1/2
10	215	10 3/4	11 1/8	12 15/16	3 1/2
12	270	12 3/4	13 1/8	15 1/16	4 1/4
15	375	15 7/8	16 1/4	18 7/16	4 1/4

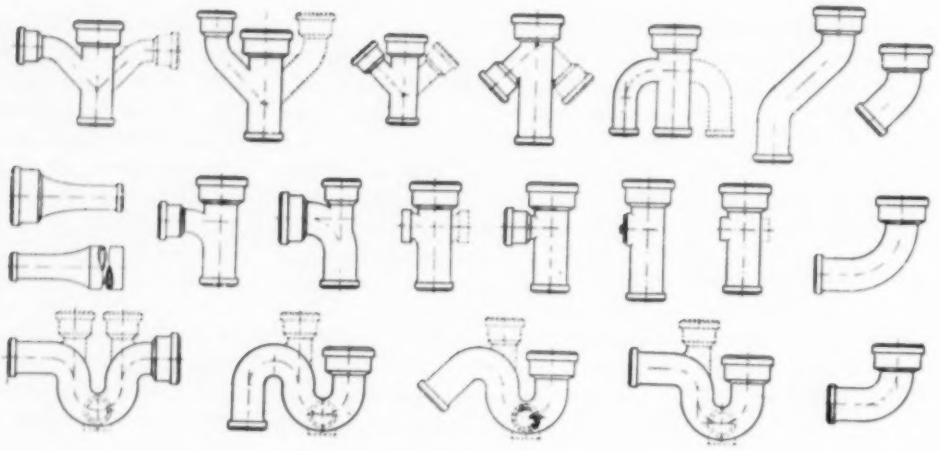


Figure 3—the many fittings available in cast iron can accommodate almost any conceivable change of direction or size as well as provide connection to threaded or calked pipe. All fittings are made in both weights of pipe. (Fittings of pipe made from other metals or nonmetallic materials do not have the same dimensions as those above. In replacing any of these with cast iron this difference may cause problems.)

drainage pipe failure

Three kinds of trouble are possible with the plumbing drainage system: (1) a stoppage; (2) failure of the joints; (3) punctures or breakage of the shell. No matter what the cause, it can mean inconvenience and expense. If there is no drainage during repairs, it means no water may be used in the building. If there are leaks outside the building lines, the digging of a trench may mean destruction of paved terraces, lawn, driveways, planting, and is particularly difficult in freezing weather. If leaks occur inside the building, it probably will be necessary to tear out walls, floors, and ceilings. Elements such as wallpaper, glass, and finish hardware are easy to repair, being easy to get at—their failure does not render the building unusable. But the failure of hidden parts very often does, and here lies the reason for a margin of safety in the waste system for plumbing, structural as well as functional.

Stoppage

If children or even grownups use the toilet as a disposal unit for things that have no business in the waste line, there may be a stoppage. Compressed air will sometimes be required to dislodge the obstruction; however, a plumbers' snake augur will almost always clear a stopped-up pipe. There is no danger of punctures from the sharp cutting head of the augur with cast-iron pipe. Tree roots, it should be noted, cannot clog cast-iron pipe with properly calked joints.

Leaky Joints

The jointing between lengths of cast-iron pipe consists of a yarning or packing with oakum between the spigot and hub to within one inch of the bell end. (*See drawing in Figure 2.*) The inch space is filled with molten lead. (Patented compositions and lead wool for calking are not unanimously approved by authorities.) As a depression inside the hub forms a lock for the molten lead, the resulting joint is strong, tight, resilient, and permanent.

A leaky joint encourages stoppage from root growth of trees or planting. The saturation of the soil with what is essentially liquid manure promotes the development of rootlets and leads them to the source of the fertilizing moisture.

Leaky joints permit the escape of sewer gas which is generated from the decomposition of the waste matter in the sewer. The whole system of traps and venting, designed to prevent sewer gas from entering the building, can be defeated by a leaking joint. The escape of liquid waste from such a joint can also damage interior finishes and decoration.

The odor of sewer gas (or sewer air for the more fastidious) is offensive. But according to public health authorities, sewer gas is not dangerous or detrimental to the health unless present in great concentration and/or continuously over a protracted length of time. Precautions to prevent sewer gas in a building are actually more to avert a nuisance condition than to protect the health, contrary to what many believe.

However, a leaky joint permitting the escape of liquid waste outside the house can be a health menace. Seepage into springs, wells, or cisterns can cause typhoid, dysentery, and cholera. Pollution of the water supply can occur when a fresh water pipe also has a leak and the pressure in the pipe drops to below atmospheric, sucking the liquid waste from the leaking sewer pipe into the water line. These dangers rarely occur, but they can and do happen.

Either liquid waste or sewer gas can attack pipes carrying fuel gas, creating an explosion hazard.

The strength and resilience of cast-iron pipe joints of oakum and lead allows for ordinary earth movement without damage. For horizontal runs, two or more lengths of pipe can be joined in a vertical position. These joined lengths minimize the number that have to be calked in the trench. The joints are so strong that the joined lengths are safely carried from the place of assem-

bly to their final position as if they were a solid length.

In one test on joint strength, two 5-ft lengths were joined in the conventional manner and supported at each end as a simple beam. A 1000-lb load applied at the center caused a slight deflection—but no leak. This ability to yield slightly under loading explains how cast-iron pipe can withstand pressure transmitted through the earth cover above as well as ordinary settlement or heaving of the earth on which it rests.

Crushing or Puncture

These types of damage hold the same dangers as leaking joints. But cast-iron sewer lines from building to street are not liable to injury from sharp stones in the trench backfill, crowbars used in probing to locate pipe lines, or heavy loads passing over the trench backfill. A loaded 5-ton truck can pass over pipe buried as little as 12″ below grade without damage.

Sewer lines, however, are generally below frost and there are several reasons why. In a trench carrying other services, the sewer is the lowest with the others 12″ apart, bringing the sewer some feet below grade. In the case of stoppages during freezing weather, some of the house sewer could fill with liquid and freeze if too close to grade. There is the possibility that without a grease trap for kitchen wastes, a shallow-buried sewer would be more likely to congeal grease on the pipe walls, thus reducing the effective internal diameter.

estimating pipe sizes

Waste and vent-pipe diameters are based on the number of fixture units to be served. As a rule, the local code gives these data. Bureau of Standards *BMS Report 65* outlines the sizing procedure.

framing

Second only to the modest fame of some plumbers for forgetting tools is that of cutting framing to smithereens for pipe lines. Studs must be of size to accept the hubs of cast-iron pipes. Lines in the floors and walls should be planned so that framing will not be weakened by cutting for piping.

vents

The Co-ordinating Committee for a National Plumbing Code, of the U. S. Department of Commerce and the HHFA, allows vent piping made of cast iron, galvanized wrought-iron, galvanized steel and ferrous alloys, lead, brass, or copper pipe or tubing. It would seem that some of the nonferrous materials allowed would be short-lived because of electrochemical action. Vents of 2″ diameter or larger, and particularly if underground, may be of cast iron. Galvanized ferrous-pipe is probably most frequently used for above-ground vent pipe.

tests

(1) At the completion of the roughing-in a water test is applied to the waste and vent piping. All openings are tightly plugged and the system is filled with water at the roof stacks.

(2) In freezing weather an air-pressure test may be used at 5 psf for at least 15 minutes.

(3) After all fixtures have been permanently connected and traps filled with water, a penetrating smoke from a smoke machine is introduced under pressure. The smoke will reveal the presence of leaks.

(4) A peppermint test may be substituted for the smoke test. Oil of peppermint in water can be poured into the roof stack opening which is then sealed. Oil of peppermint has a very penetrating odor, easily revealing lack of tightness. If there is more than one leak, however, the odor from the one that is first detected makes it difficult to find any others.

cost of cast iron

The original materials and labor cost plus the maintenance cost of cast iron over its potential life will compare favorably or be less per year than that of any other material that can be used for the waste system.

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service buildings

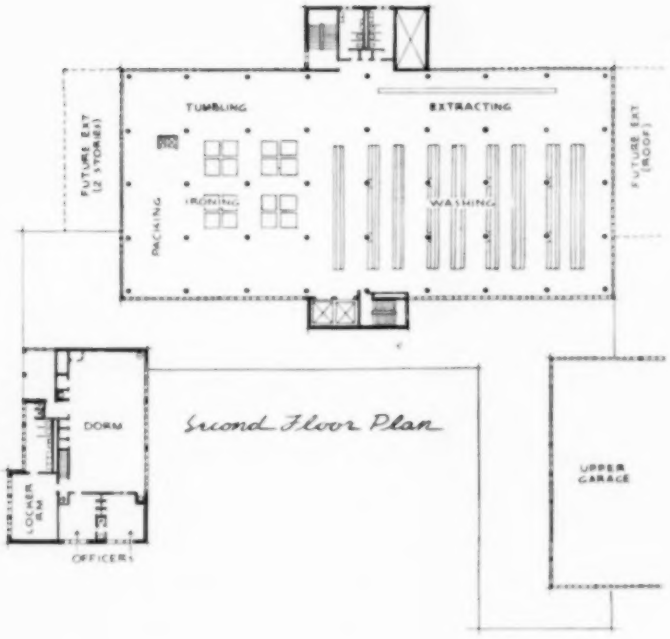
Replacing an antiquated laundry and converted stable of a former era, the new service buildings of Welfare Island (city-owned land in Manhattan's East River) supplement existing hospital facilities on a site just north of the connecting Queensboro Bridge. The architects grouped laundry, fire house, and garage about a common entrance court.

The laundry, designed on a three-story, gravity-flow principle, is a virtual wonder building. Infinite precautions are taken to isolate contaminated articles. And its varied activities include everything from blanket washing and rug cleaning to feather sterilization and soap manufacture. Within a structural framework of reinforced concrete, blue translucent glass affords thermal control and diffuses the light. A projected figure of 11,000 tons processed annually is fast becoming a reality, largely due to the planning of areas for future expansion.

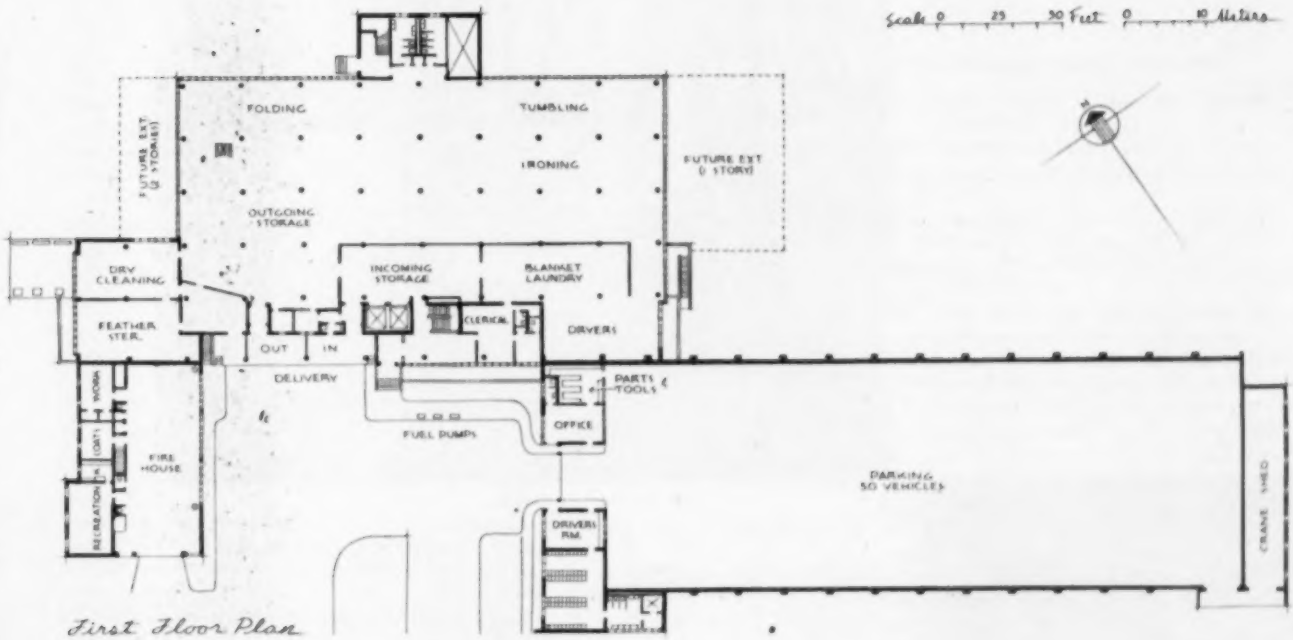
Since vehicles on the island include cars, trucks, busses, and special equipment, the architects considered the primary requirement of the garage to be an unobstructed floor area. To accomplish this, they employed light-steel trusses with a span great enough to include the turning radius of a bus. Between masonry piers, cinder-block cavity walls are faced on the exterior with brick.

The fire house, its hose-drying tower a thin shaft of brick and glass capped by louvers, is a sharp contrast to the more massive surrounding elements. Termed by the firemen ". . . the most wonderful structure of its type . . . ," it expands a stringent municipal program by including a lounge terrace facing the river, recreational facilities, a large, well-lit bunkroom, and generous locker and washroom facilities. Enclosed by wire glass in a structural steel frame, its access spaces are bathed in a bluish-gray light.

client	Department of Public Works, City of New York
location	Welfare Island, N. Y.
architects	Moore & Hutchins and Percival Goodman
structural engineer	Fred N. Severud
mechanical engineer	Fred L. Moesel
general contractors	T. H. K. Construction, Inc., and Harry Jeroski, Inc.

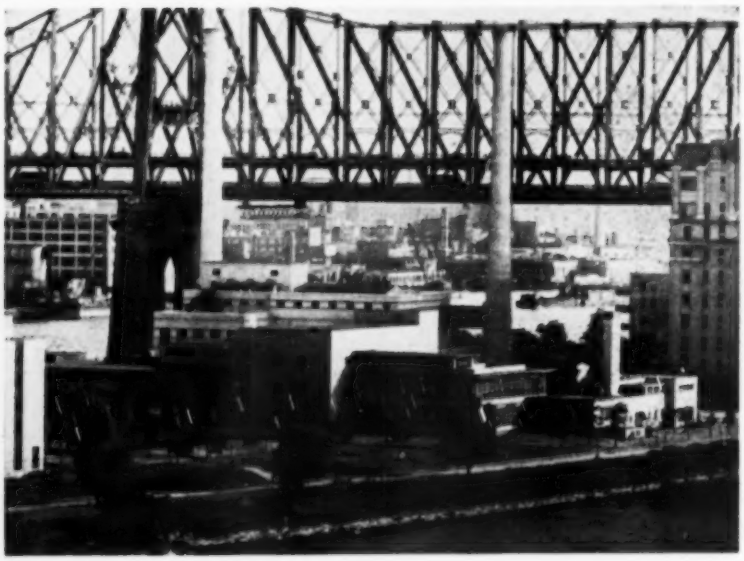


Second Floor Plan

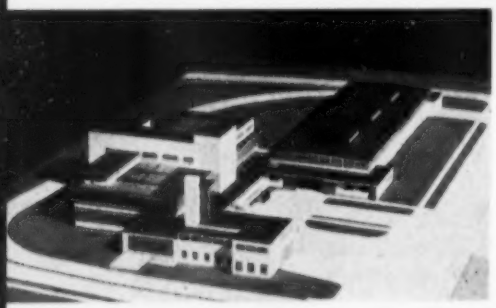


First Floor Plan

Service buildings have continuous windows with operable sash, supplemented by skylights, for natural illumination. Much of the window area is blue-green translucent glass for light diffusion and thermal control.



Model (below) *indicates the unified structural system of reinforced concrete and cavity walls faced on the exterior with a sand-colored brick. Reduced bay areas of the laundry was one of the means used to evolve an economical solution.* Photos: Alexandre Georges



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p/a products

combines perimeter, radiant, baseboard heating

Primarily intended for use in multiple-story homes, either in new systems or for replacement of outmoded equipment, the Perim-A-Base heating system combines perimeter, radiant, and baseboard heating. The system is adapted for any or all phases of air conditioning without expensive additions or alterations.

In the Perim-A-Base system, convected heat is introduced into rooms at the baseboard level through panels which extend the full length (and width, if necessary) of the room. The forced-air unit, using gas, coal, or oil, may be any style or model and the ductwork may be either standard-sized or small-pipe. Heat travels through the pipes into an entrance panel or into a stack, if it is being extended to the second floor. Vanes in the entrance panel divert the air both to the left and right into the Perim-A-Base panels where expanded areas cause both the pressure and velocity of the air to drop. The return air is taken from the ceiling, or at a near-ceiling level on an inside wall, through oversize grills; it then travels through ductwork to the return plenum.

In the cooling cycle of the system, a reverse procedure is used—the cooled air flows through the high-wall or ceiling diffusers into the rooms. The baseboard panels exhaust the cooled air from the floor level and themselves become cool; thus the panels act as secondary cooling surfaces within the room. Exhausted to the cooling chamber of the unit, the return air will be cooled (and if desired, mixed with fresh outside air) and then discharged into the plenum for return to the rooms.

Fully automatic with no possibility of water leaks, the maintenance cost of the system is low. Berger Furnace Manufacturing Company, 5920 Center Avenue, Pittsburgh, Pa.

foamed-in-place core material

Corfoam No. 114, a new high-strength material which combines a liquid phenolic resin with foaming and accelerator agents, has been developed for structural core applications. This resin will foam to approximately 5½ times its volume without the application of either heat or pressure and will harden at room temperature. Having a compressive strength of approximately 500 psi, this honeycomb-core material may be foamed in place or removed when hard and fabricated into shapes. The foaming action is relatively slow. Although this material will harden in one hour, maximum physical properties are not attained for one week—a density of 14 lb per cu ft should be obtained in the finished product. It will adhere to wood, paper, or metal; will not support combustion; and has low moisture absorption. Corfoam is sold in units comprised of individually-packaged propor-

air and temperature control

Blend-Air Conditioning: two types of year-round air-conditioning systems for old or new residential construction. One has self-contained summer cooling and dehumidifying system mounted beside Blend-Air furnace, or conventional forced warm-air heating system. Other consists of Blend-Air furnace with cooling section on top and remotely-located evaporative compressor-condenser package for saving of interior living space and saving of water. Coleman Co., 2 and St. Francis Sts., Wichita, Kan.

construction

GPX Green: new medium-density, plastic-faced plywood engineered to be painted and to save labor cost in erection, finishing, and maintenance of building construction. Varied interior and exterior uses. Smooth green cellulose-fiber surface sheet covers both sides. Cellulose fibers and phenolic formaldehyde resin bonded together by intermolecular forces. Standard panel sizes: 3' x 8' and 4' x 8' with thicknesses ranging from 5/16" to 1⅝". Georgia-Pacific Plywood Co., 270 Park Ave., New York, N. Y.

Korelock: prefab, prefinished ceiling and wall panels primarily designed for commercial interiors. Constructed with interlocking wood core between two sheets of Masonite Duolux; face has baked finish, back is sealed and baked. Tongue and groove system with V joints provides accurate fitting. Available in two sizes: 24" x 48", 24" x 96"; cream, white, and wood patterns. Marsh Wall Products, Inc., Dover, Ohio.

Steel Support Channels: available for 24" and 48" spans, steel support channels are designed to simplify installation of sound system speakers in suspended ceilings. Channels may be used in either new or existing ceilings. In new installations, channels are secured between ceiling supports at desired locations before ceiling material is applied. Where ceiling has already been installed, a hole can be cut for slip fit of speaker enclosures or a ceiling panel can be removed. Lowell Mfg. Co., 3030 Laclede Station Rd., St. Louis, Mo.

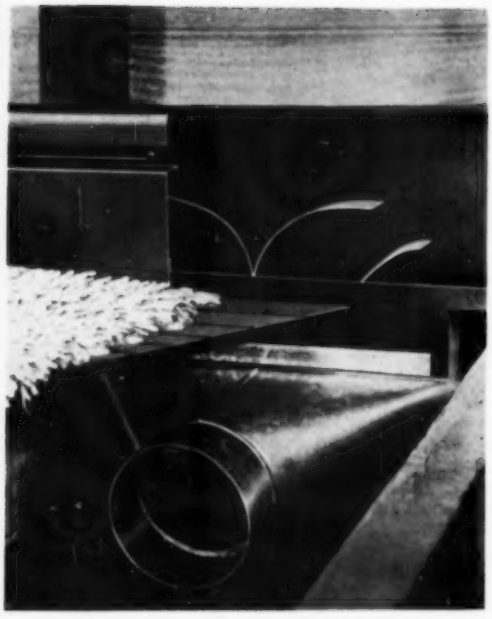
doors and windows

Aluminum Windows: acid-dipped aluminum windows sprayed with clear lacquer available at standard prices. Problem of plaster stains and excessive steelwool cleaning after installation are eliminated. Also, new Series "54" window available with optional balance bar operator for large installations which operates through frame sections, allowing standard type screens to be used. Screens and storm sash interchangeable. Miami Window Corp., 5200 N. W. 37 Ave, Miami, Fla.

Dual Arm Roto Operator: new equipment for ventilators in modern panel windows provides both top and bottom ventilation and is controlled by single self-locking crank. Two operating arms are attached to bottom of panel ventilator by hinged guide channel. Sliding action of arms across channel provides balanced control and prevents twisting and racking. Pair of pivot hinges and two side-control balance arms eliminate sagging. Standard-Thomson Corp., Dayton 2, Ohio.

Steelcraft Casement Windows: new steel casement windows especially adapted for installations of standard air-conditioning units. Need for removing any window parts, cutting, or welding is eliminated. Manufactured in four standard sizes with adjustable members to accommodate individual air-conditioning units. The Steelcraft Mfg. Co., 9017 Blue Ash Rd., Rossmoyne, Ohio.

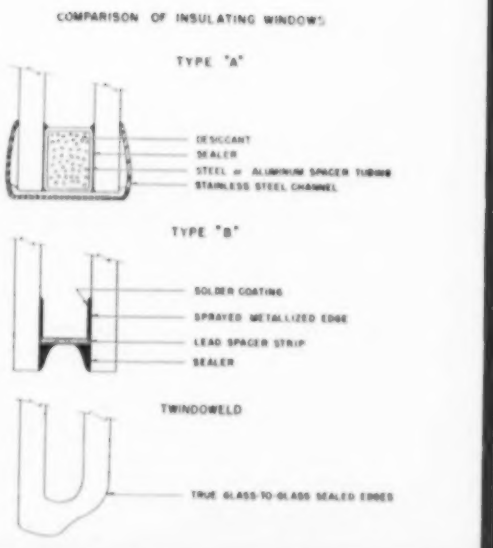
all-glass insulating window



No metals, bonding materials, or other assembled parts are to be found in Pittsburgh Plate Glass Company's first all-glass double-glazed insulating window now being manufactured. Edges are electrically fused to provide all of the advantages of the assembled double-glazed units now on the market, plus the permanency of true glass-to-glass sealed edges.

Called Twindoweld, these units consist of two layers of ⅛"-thick glass separated by a 3/16" air space—the air between the two panes being removed in the manufacturing process and replaced with specially dried air. Heat transfer properties are the same as for standard assembled insulating windows. Under average conditions the new units will reduce the amount of heat transfer by about one-half of the normal amount transferred through an equivalent area of conventional single-glazed windows. As no metal is required, edge conducitvity is eliminated.

This new product is specifically designed for residential glazing, apartments, schools, and all other building applications where large quantities of relatively small insulating units may be utilized. Twindoweld, available in sizes up to 50" x 62", is expected to retail at about the same price as the assembled doubled-glazed insulating window. Pittsburgh Plate Glass Company, 632 Duquesne Way, Pittsburgh, Pa



tional amounts of resin, accelerator, and foaming agent. Other resins which will produce lighter foams are also being developed by the manufacturer. One has a density of 7 lb per cu ft and a compressive strength of 225 psi. Rezolin, Inc., 5736 W. 96th St., Los Angeles, Calif.

electrical equipment, lighting

Peer-Lite: new lighting fixture with simple lines to permit freedom in pattern planning. Also allows use of wide range of louvers and diffusers. 20% uplight, 80% downlight; top plates for 100% downlight also available. Luminous side panels; available with 2, 3, or 4 lamps; 4' or 8' lengths. The Edwin F. Guth Co., 2615 Washington Ave., St. Louis 3, Mo.

Electric Generating Plant: new model, primarily intended for emergency stand-by service, has 10 kw capacity; available either with electric starting or supplied with controls which automatically start plant when regular power fails. Four-cylinder air-cooled gasoline engine. Furnished for single-phase or three-phase service, at either standard or special voltages. Universal Motor Co., 494 Universal Dr., Oshkosh, Wis.

insulation (thermal, acoustic)

Lexsuco Insulation Clips: mechanical fasteners with positive-locking action for anchoring rigid and semi-rigid insulation to steel roof decks and sheet metal. Clips pierce metal easily and lock insulation in place with special locking tongue. High pull resistance of tongue prevents loosening of insulation regardless of position or pitch of surface. Four to six clips required for each 2' x 4' roof insulation sheet or one per sq ft of duct insulation. The Lexington Supply Co., 4815 Lexington Ave., Cleveland 3, Ohio.

sanitation, plumbing, water supply

Sanimaster: new storage-type water heater simultaneously provides hot water of two different temperatures from single tank. Designed primarily for commercial kitchens, heater provides water at 180 F for dishwashers and general purpose water at 140 F for sinks, customer lavatories, and other uses. Will boost 200 gal per hour of 140 F up to 180 F. Ruud Mfg. Co., Pittsburgh, Pa.

specialized equipment

Drafting Stamp: new draftsman's stamp of transparent Plexiglas for stamping conventional symbols on engineering drawings. Stamp permits user to orient a symbol, embossed on stamp, with existing lines on drawings. Available in 124 engineering symbols, designed in accordance with ASA standards. Each stamp 1-¼" sq and 5/16" thick. John Griffin Co., St. Paul, Minn.

Econ-O-Flex Salesmaker: new addition to line of metal merchandising equipment which provides a greater area of selling space. Light-weight shelving of Novoply laminated wood with metal pricing channel to accommodate ⅞" price tickets, tubular steel legs. Reflector-Hardware Corp., Western Ave. at 22 Pl., Chicago 8, Ill.

Draftmaster Drafting Table: new model available in 4 sizes with standard 37" height. Built with all-steel base and smooth-finish kiln-dried soft wood top. Top can be adjusted to any desired working angle by two raising devices which slide into table leg. Auxiliary 2-drawer unit fits under tool drawer for extra storage and filing space. Stacor Equipment Co., 768-778 E. New York Ave., Brooklyn 3, N. Y.

Kitchen Appliances: line of washers, ironers, and dryers has been expanded to include freezers, refrigerators, and electric ranges. Look-alike theme carried out in design. Three refrigerator models: 8.7 cu ft, 10 cu ft, and 10 cu ft deluxe. Upright freezer: 11 cu ft. Thor Corp., 2115 S. 54 St., Cicero 50, Ill.

p/a manufacturers' literature

Editor's Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

★

air and temperature control

1-19. Choose Your Own Weather (S-401), 16-p. catalog of heating, cooling and ventilating systems for commercial, school, public, residential, and industrial installations. Photos of various installations and applicable equipment; description of air-conditioning systems, special applications. The Trane Co., 2020 Cameron Ave., La Crosse, Wisc.

1-20. Acme Products (SC-1), 4-p. booklet describing a line of air conditioning and refrigeration equipment. Included in the line are water chillers, Freon and ammonia condensers, water-chiller units, industrial unit coolers, evaporative condensers, cooling towers, heat exchangers, oil separators, liquid receivers, and pipe coils. Each type of equipment illustrated with photo. Acme Industries, Inc., Jackson, Mich.

1-21. Units for High Velocity Air Conditioning Systems (HV Manual 48), 12-p. brochure with engineering data on the selection, layout, and installation of high-velocity air-conditioning units and diffusers. Information given on duct design, sizing of ducts, types of systems and balancing of units, how metal and space savings are achieved. Photos, charts, and drawings. Anemostat Corp. of America, 10 E. 39 St., New York 16, N. Y.

1-22. The Latest Design Development for Electronic Air Cleaning (400), 8-p. bulletin describing a new filter for use with all types of ventilating systems. Dust, smoke, soot, and microscopic particles are electrostatically charged and attracted to and held by negatively charged collector plates. Ionizing and collecting chambers in one unit. Test results, cutaway drawing, photos, specifications. Dollinger Corp., 11 Centre Pk., Rochester 3, N. Y.

★ **1-23. Johnson Control — Radiant Heating** (H), 20-p. brochure containing a discussion of radiant heating systems with particular reference to methods of control. Types of radiant heating systems, systems using weather-compensated control, primary controls for radiant heating, room thermostat control, recommendations of pipe and tubing manufacturers, ratio of weather compensation. Diagrammatic drawings showing control methods. Johnson Service Co., 507 E. Michigan St., Milwaukee 2, Wis.

★ **1-24. Facts on Airfoil Air Conditioning Outlets,** A.I.A. 30-J, 96-p. catalog with information on the construction, performance, selection, and specification of air conditioning outlets: registers and grills, volume controllers, return-air registers and grills, frames, and accessories. Detailed engineering data, photos, drawings, price list. Titus Mfg. Corp., Waterloo, Iowa.

★ **1-25. Industrial Centrifugal Fan Heaters** (1510), 32-p. catalog describing standard and heavy-duty centrifugal fan heaters for industrial purposes. Information given on where to use the heaters, at what circulating capacities and temperatures, and how to place them. Typical specifications and examples; tables and graphs of performance data; outline dimensions of the units; construction features, accessories, and instructions for installation. Photos, drawings, charts. Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston 36, Mass.

construction

2-28. Asbestos Flexboard for Commerce and Industry (FLX-3A), 16-p. booklet showing various commercial and industrial installations of an asbestos-cement building board. Material is fire- and rot-proof. Illustrated are uses for curved or flat surfaces, exteriors or interiors, protection against fire, surfaces exposed to heavy wear and tear, remodeling or repairing. Photos and drawings. Johns-Manville, 22 E. 40 St., New York 16, N. Y.

★ **2-29. Modern Construction with Engineered Timbers,** A.I.A. 19-B-3 (TSG-10), 12-p. bulletin in color discussing applications of glued laminated beams, arches, and trusses. Technical data includes sizes and properties of glued laminated beams, typical purlin sizes, standard thicknesses of laminations and limiting curvatures, arch section dimensions for various roof slopes, spans and loadings, and dimensions and weights of bowstring and parallel chord trusses. Timber Structures, Inc., P. O. Box 3782, Portland 8, Ore.

2-30. Design Manual for Welded Wire Fabric (GF-20), 30-p. manual describing welded wire fabric for prefab concrete reinforcement. Applications, stress-strain curves of concrete reinforcing materials, standard styles of welded fabric, information on wire gages used in welded wire fabric, standard specifications, and other data. Photos, tables. Wire Reinforcement Institute, Inc., National Press Bldg., Washington 4, D. C.

doors and windows

Two 8-p. folders, one describing steel sliding doors and the other containing information on steel residential casement windows. Specifications, detailed drawings, photos and drawings of hardware used, and installation details. Modular residential casement standards. Michel & Pfeffer Iron Works, Inc., S. Linden and Tanforan Aves., So. San Francisco, Calif.:

3-32. Steel Arislide Doors, A.I.A. 16-E-1

3-33. Steel Residence Casements, A.I.A. 16-E-1

3-34. Stainless Steels for Store Fronts and Building Entrances, A.I.A. 26-D, 40-p. booklet analyzing the use of stainless steel in a variety of store fronts and entrances. Functions of an entrance, economical stainless steel designs, functional components, standard stainless steel products, specification guide. Detail drawings, photos. Committee of Stainless Steel Producers, American Iron and Steel Institute, 350 5 Ave., New York 1, N. Y.

3-35. Buyer's Guide: Sliding Door Hardware, A.I.A. 27-A (153), 22-p. catalog with specifications and installation data on sliding door hardware. Available for kitchen cabinet and other short-length by-passing doors, wardrobe by-passing doors, and open- and closed-pocket doors; frames for closed-pocket installations, accessories. Methods of installation, detailed drawings, drawings of parts. Kennatrack Corp., Elkhart, Ind.

3-36. Engineered All-Weather Windows, A.I.A. 16-L, 14-p. folio describing window units which combine stationary double-glazed pane with louvered sections which may be placed at top, bottom, or sides of pane. Design possibilities, cross section of unit, photos of installations. Architectural details of units with 5-¼" jamb. Solar Air-Flo, Inc., Elkhart, Ind.

electrical equipment, lighting

4-18. Fluorescent Fixtures, 48-p. catalog showing line of fluorescent fixtures for commercial and industrial use. Individual, surface, louver, pendant, and continuous row mountings. Luminaires, slimlines (for single- or bi-pin lamps), striplites, and industrial types. Photos of fixtures, construction and mounting details, dimensions, charts of models. Gibson Mfg. Co., 1919 Piedmont Circle, N.E., Atlanta, Ga.

Two 4-p. folders describing an adjustable light transformer for use in place of on-off wall switches. Allows selection of light desired from blackout to full brightness, handles any number of lamps up to 360 w at 120 volts. May be installed by any standard method suitable for a double-size wall box. Detailed drawing, drawings showing possible applications. The Superior Electric Co., Bristol, Conn.

4-19. The Wallbox Dimmer, Bulletin D253WBC

4-20. The Wallbox Dimmer, A.I.A. 31-F-25, Bulletin D1052WBT

4-21. Wilsons' Luve-Tile, 16-p. booklet describing 1-ft sq louvered panel of molded

styrene plastic for illuminated ceiling installations. Basic elements of panels, step-by-step guide for installation, recommended types of lighting units for use with panels, typical layout problem, photos of installations. J. A. Wilson Lighting & Display Inc., 995 Main St., Buffalo 3, N. Y.

insulation (thermal, acoustic)

6-10. Sound Conditioning for Schools and Colleges (5119-C), 12-p. brochure discussing the use of an acoustical tile in corridors, auditoriums, cafeterias and lunchrooms, classrooms, typewriting rooms, libraries, music rooms, gymnasiums, and business offices of schools and colleges. Illustrated by photos of installations. Perforated or fissure tiles available. The Celotex Corp., 120 S. LaSalle St., Chicago 3, Ill.

6-11. Insulations for Light Construction, A.I.A. 37-C, 20-p. booklet giving design and application data on glass-fiber roll blankets, batt blankets, pouring wool, perimeter insulation, and utility batts. Also information on general insulation design considerations. Photos illustrate approved methods for installing glass fiber insulation in dwellings, prefab metal buildings, and other structures classed in the category of light construction. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo, Ohio.

sanitation, water supply, plumbing

7-6. Disposall (5-42), 6-p. folder describing food waste disposal unit for installation in kitchen sinks. Explanation of 3-step operation, advantages of unit, cutaway drawing, installation data, description of parts. General Electric Co., Major Appliance Div., Louisville 2, Ky.

7-7. McDonnell Condensed Catalog (C-49), 8-p. catalog covering line of boiler water feeders, low-water fuel cut-offs, pump controls, and relief valves (including new temperature relief valves and combination temperature and pressure relief valves in regular and dip tube models). Information arranged to simplify selection of proper equipment with price list and discount sheets. Photos and tables. McDonnell & Miller, Inc., 3500 N. Spaulding Ave., Chicago 18, Ill.

7-8. Thrush Water Circulators (HC-352), 6-p. circular giving information on line of horizontal and vertical water circulators for new or conversion of hot-water heating systems. Performance charts, capacity tables, dimensions, drawings illustrating various applications of water circulators on hot-water heating systems and domestic hot-water supply systems. Also other special or unusual applications. H. A. Thrush & Co., Peru, Ind.

specialized equipment

8-15. Movable Cabinets for the Self-Contained Classroom, A.I.A. 35-S (WJK), 8-p. booklet describing adjustable storage units in various models, portable craft benches, reading benches and tables, and clothing cubicles. Information on dimensions, materials; drawings and photos of units. Adjustable Cabinets, Inc., 400 Scajaquada St., Buffalo 11, N. Y.

8-16. Medart Telescopic Gym Seats, A.I.A. 35-F-11, 20-p. catalog of folding gym seats, including wall-attached, movable, high-row, recessed, and two-level types. Features of design and construction illustrated with drawings; typical construction detail, accessories for gym seats, typical specifications, and list of installations. Also descriptions of locker room equipment, gymnasium apparatus, and other equipment. Fred Medart Products, Inc., 3535 De Kalb St., St. Louis 18, Mo.

8-17. Mitchell Portable Folding Platforms (FS-1), 4-p. folder describing portable folding units for use as temporary stages, speakers platforms, runways, and stands. Various heights available with 4′ x 8′ top. Specifications, photos showing setting up and storage of units. Mitchell Mfg. Co., Milwaukee 46, Wis.

8-18. The Outdoor Plastic for Signs (PL-84A), 24-p. brochure with photos and description of outdoor signs made of Plexiglas acrylic plastic, including solid-color quantity, painted quantity, custom, letter, and spectacular types. Advantages in use of Plexiglas. Rohm & Haas Co., Washington Sq., Philadelphia 5, Pa.

8-19. Armorply Chalkboard, A.I.A. 35-B-1 (1184A), 6-p. folder describing porcelain-enameled steel-faced chalkboard panel. Core material: ¼″ Weldwood fir plywood; aluminum backing sheet. Explanation of features, installation instructions, recommended specifications, list of installations. Photos and details. U. S. Plywood Corp., 55 W. 44 St., New York 36, N. Y.

surfacing materials

9-8. Vinylized Azphlex, 4-p. booklet containing information on greaseproof vinyl floor-tile with marbleized pattern. Standard sizes: 9″ x 9″, 6″ x 12″, and 12″ x 12″; thicknesses: ⅛″ and 3/16″. Feature strips available in 24″ lengths. Color chart, features of flooring material, drawings. Uvalde Rock Asphalt Co., P. O. Box 531, San Antonio 6, Tex.

9-9. Gold Seal Catalog, A.I.A. 23-J (B-462), 26-p. catalog in color covering line of linoleum (plain, inlaid, and static-conductive), and vinyl-plastic, asphalt, and rubber tile products. Gage and federal specification data, color charts, installation and product specifications. Photos and charts. Congoleum-Nairn, Inc., 195 Belgrove Dr., Kearny, N. J.

(To obtain literature, coupon must be used by 9/1/53.)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

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2-29	2-30	3-32	3-33	3-34	3-35	3-36	4-18
4-19	4-20	4-21	6-10	6-11	7-6	7-7	7-8
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Copper

WHERE IT COUNTS

AMERICAN STORES BAKERY AND WAREHOUSE, PHILADELPHIA, PA.

22 TONS OF REVERE COPPER USED FOR EXPANSION JOINTS, FLASHING, FASCIA, AND VENTILATOR HOODS

ACRES AND ACRES of roof with 4,000 ft. of 4 ft. girth, 20-oz. Revere Copper expansion joints guarding against an invasion by weather. Non-rusting, enduring Revere Copper was also used for the fascia, ventilators and for flashing around the rising walls.

ARCHITECTS FOR THIS colossal flat roof were Ganteaume & McMullen, Boston, Mass. Roofing and Sheet Metal Work—Warren-Ehret Co., and L. William Ewing Company. Hughes-Foulkrod Company was general contractor, while the Revere Distributor was Merchant & Evans . . . all of Philadelphia.

When you have 8,000 squares of flat roofing, you have yourself a roof. That's what was involved in this Acme Market's roof that covers their bakery and warehouse. It stretches for 5 city blocks. And in Philadelphia the blocks are long! The vastness and very nature of the construction of this roof dictated copper in the vital spots. For this roof must endure for many years, require the absolute minimum in maintenance and do a thoroughly efficient job of protecting the foodstuffs stored beneath it. On top of that, with 4,000 ft. of expansion joints, the material used had to be rugged enough to withstand abuse yet readily workable and economical to install. Also it had to be able to shrug off year after year of contraction and expansion. Copper dovetailed into this pattern perfectly.

Actually, copper fits perfectly into many patterns. There is not another single metal or alloy that has all the outstanding construction characteristics of copper. Its endurance has been proven over centuries of use. It is readily worked into any desired shape. It solders to perfection. It requires no painting. And it can't rot or rust.

The end use restrictions on copper a while back did more to point up its importance in building construction than anything that we might print about it. Architects, builders and contractors told us at that time that there are places in building where there just is no substitute for copper.

Now, with restrictions on the use of copper ended there isn't any reason why your next job can't have the many benefits of Revere Copper. See the Revere Distributor nearest you about Revere Sheet, Strip or Roll Copper for flashing. Particularly ask him about the money-saving advantages of Revere Keystone Thru-Wall Flashing*. And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

*Patented

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by Ben John Small

spec small talk

sister act

I am more than certain you will doubt this story, but I swear on a stack of P/A's it's true. It happened during my second visit to Greenland last winter. My colleague and I were riding in a jeep toward the ice cap, studying the surrounding real estate, when we sighted two teams of dogs each drawn by an Eskimo youngster who appeared to be about 18 to 20 years old. They were obviously brothers. As they approached, we stopped to have a conversation which consisted of much gesturing and smiling. We lavishly admired their dogs, furs, kamiks, sledges, and sealskin thongs and, still gesturing, offered to trade. I tried to interest them in my small pocket knife and made much of a demonstration of its nail file, cuticle pusher, knife blade, and miniature scissors. They laughed until tears came to their eyes and then showed me a large hand-fashioned bone knife with a neatly carved polar bear handle. They indicated no swap, no deal. Finally we said goodbye and one lad replied "Goodbye"; the first English word either Eskimo had spoken. I said "Hello," and he answered in kind. Then pointing simultaneously to each I asked, "brothers?" To which one shook his head violently and said very clearly "sisters." We laughed and so did they. Further "conversation" brought forth no additional words other than the name of one brother, Knut. With regard to the real estate, I might say it was most fruitful in providing for our project crushed, medium-grained diorite, glacial gravel, quartzite, schists, and broken shale. We have been designing structures for subzero areas for some time now and have accumulated considerable know-how. So what happens? We get a job in a hot, humid climate. Sit tight, if you can, for forthcoming columns on tropic-proofing.

catalytic nickel generation

Every once in a while a technological development comes along which packs a real wallop in its scope of application. As an example, the General American Transportation Corporation, in picking up where the Bureau of Standards left off, perfected a nickel plating process described as Kanigen (short for catalytic nickel generation). The process is expected to serve more than one hundred industries including building trades such as plumbing, heating, electric, as well as the metal working fields. The interesting part of the process is that nickel can now be chemically deposited with uniformity controlled to within ten percent of the plating thickness (usual variant is from a few to several hundred percent) regardless of size or contour of the object being plated. Economy is possible since only from one-half to two-thirds of the nickel normally required for plating is employed. It is claimed that Kanigen plate is nonporous with a tolerance of one pore per square foot, and has a hardness of 600 Vickers and can be used on brass, copper, monel metal, stainless steel, aluminum, glass, plastics, ceramics. Further, the plating can be less than one-half mil in thickness which, by the way, is an ideal thickness for a set of contract specifications.

mink container

A specification writer writes: "Leave my name out of this but here is one typographical spec error that might give you a giggle. It reads like so: All tools necessary for the proper operation and maintenance of the Boiler House equipment shall be installed in the Boiler Room in a manner acceptable to the Engineer. Tools shall include one complete set of high grade *wenches* for fans and other equipment; they shall be furnished in a suitable container." Such as mink, maybe?

slag a la mode

A.I.S.I. tells us about blast-furnace slag which was once a waste and disposal problem. Today blast-furnace slag has a wide variety of uses despite the fact that it contains the unwanted elements of iron-making. Of 39 million tons produced in 1951 about 29 million tons were processed and sold by 43 companies engaged in processing slag. The primary processed variety is used in concrete construction. It is the principal source of raw material in the manufacture of mineral wool. It helps to protect the public health through its use as a filter medium in sewage disposal plants. And it contributes to the public welfare through its use as a soil conditioner. Small tonnages serve as a solid base to which young oysters, or spats, attach themselves. I just knew you could hardly wait to receive this earth-shaking intelligence.

roller derby

My wife haunted me for what seemed like years to paint the ceiling of our entrance hall. I kept putting it off and putting it off, until one day in the middle of a psychiatric examination it was pointed out that I was frightened by a barber pole at the age of two and one-half. Since my arm invariably looks like a barber pole while painting ceilings with a brush, it was determined that I had a mental block and was unconsciously fighting the thing. I was destined to go through life barely looking up. One day I discovered the paint roller and today my eyes are proudly raised heavenward without fear of resin emulsion, cement water, rubber base, alkyd resin, or any other ceiling paint. I am a painting fool now. The chemical director of Devoe & Reynolds Company tells me that the paint roller is admirably adapted to the painting of cinder or concrete masonry units as well as any smooth surface. In many cases painters object to using it or, in some cases, ask a special rate but nevertheless, he says, the time saved is amazing One coat is usually adequate on blocks because the roller applies a very heavy coat and forces the paint down into the pores so that there is a minimum tendency for the block color to show through the paint color. About the only exception, where you do not get solid coverage with first quality paints over cinder concrete masonry units, is the bright yellow. The hiding power of bright yellows is deficient and there is not much the paint manufacturer can do about it; since the intrinsic hiding power is lacking, two coats are needed. For most other colors an application by paint roller will do a good job in one coat, that not only looks well but injures to a minimum the acoustical features. Supposing you are not interested in the acoustics of the units and wish to obtain a smooth surface and one that is at least reasonably washable. Gather around and listen, for no other magazine features such gems of information. Apply one coat of wall-primer sealer and one coat of a finish-coat flat that has a low angular sheen but is not as flat as the flat desired for acoustical features. If the wall is very porous, stir into the primer sealer four pounds of fine dry white sand and then apply this thick mixture to the wall either with an old stub brush or a scrubbing brush or our newly found friend the paint roller. It should be applied very heavily and the spreading rate probably will average one hundred square feet to the gallon, because you are filling up the pores and holes. After this is dry, apply a finish coat of a flat which is a tight flat and which has a little angular sheen in the interest of washability.

I had better stop now before my wife gets any more notions for her little old home craftsman.

Handsome checkout counters are faced with easy-to-clean Formica in yellow Skylark pattern.

Prediction:

More FORMICA in "Store" for Supermarkets

Supermarkets for grocery selling are leading the stampede toward self-service merchandising in all phases of retailing.

Formica is a growing part of this revolution.

Elimination of personal contact between salesperson and customer puts greater emphasis on color, beauty and rugged wearing quality of the sales setting.

Formica radiates a warm invitation to masses of people and, having attracted them, is "wear conditioned" against careless use.

For more Formica information see Sweets File $\frac{13a}{FO}$ or write:

FORMICA 4633 Spring Grove Ave., Cincinnati 32, Ohio

In Canada: Arnold Banfield & Co., Ltd., Oakville, Ontario

Illustrated Store: Steinberg's Ltd. at Henry Morgan and Co., Montreal, Canada

Color keyed with Formica. The green counters are for regular use—the yellow are express counters.

Terra Cotta Skylark Formica is used on this entire wall which includes the service counter and elevators.

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school spaces

School systems have so increased their extracurricular activities in recent years that space to house them has become a paramount problem. In newer buildings, designers of the interiors definitely plan as a part of the structure those accommodations especially for many varied activities. Even so, space is still at a premium, and areas can seldom be created to be used only short periods of time for only one activity. The obvious answer—and an economic necessity—is the multi-purpose extracurricular area. Resulting problems in actual use may be many, if the interior designer has not undertaken thorough research of the activities contemplated. Nothing is accomplished when a room is designed to handle 10 different activities if, for instance, a band is trying to practice while a basketball game is going on, with no physical separation and no acoustical control. Nor does audible clatter of dishes in a cafeteria enhance the latest dramatic presentation in the connecting auditorium. As one considers extracurricular activities one realizes that practically all of them involve *noise*—e.g. dramatics, music practice, sports, dances, class meetings, and parties. (The quiet activities seldom require special spaces and may be pursued in regular classrooms.)

Having accomplished space distribution and sound control, a really workable setup is possible. But making the (practicable) space attractive for all activities is a problem in itself. As an example, if a space is used for a gymnasium, a cafeteria, and an auditorium, in many cases it looks like a gymnasium all the time, because the normal budget is a restricting consideration, and gymnasium surfaces must be chosen to take punishment. Eye-appeal can be satisfied if one of the least expensive of design elements, *color*, is used effectively. It can transform the otherwise routine space.

Assuming that an area is capable of handling a number of functions and that it is attractive in all of its phases, the interior designer still must answer another question before he has come as near perfection as possible. How easily and quickly does the room adjust to its many uses? In most cases, the changes must be effected with minimum labor and time. Movable partitions and furnishings that can be easily stored when not in use, or are light enough to be moved about for various arrangements, are invaluable. In fact, these are necessary. In the following section are three examples that merit careful scrutiny on all the above points.

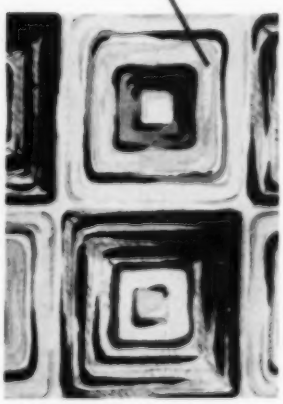
p/a interior design data

school spaces

area	meeting room, cafeteria-gymnasium
building	Roslyn East Hills Elementary School
location	Roslyn East Hills, Long Island, N. Y.
architects	Moore & Hutchins
interior designers	Ann Hathaway Associates

A combination meeting room, gymnasium, and cafeteria is a large order for an interior designer, if he is to make it work efficiently and still be eye-pleasing. Here is the perfect solution. The small auditorium has a sloping floor and a stage to permit instruction in dramatics, music, and speech, and to be used as a meeting room. When there is an overflow, a motorized, folding partition opens up the cafeteria-gymnasium room. Folding tables and adjacent storage make for quick changes with maximum ease. Food preparation and kitchen activity are divorced from the cafeteria enough so that when the room becomes a gymnasium, the functions do not interfere with each other. Nothing has been sacrificed to the multi-purpose uses of this area. ***Photos: Gottscho-Schleisner***

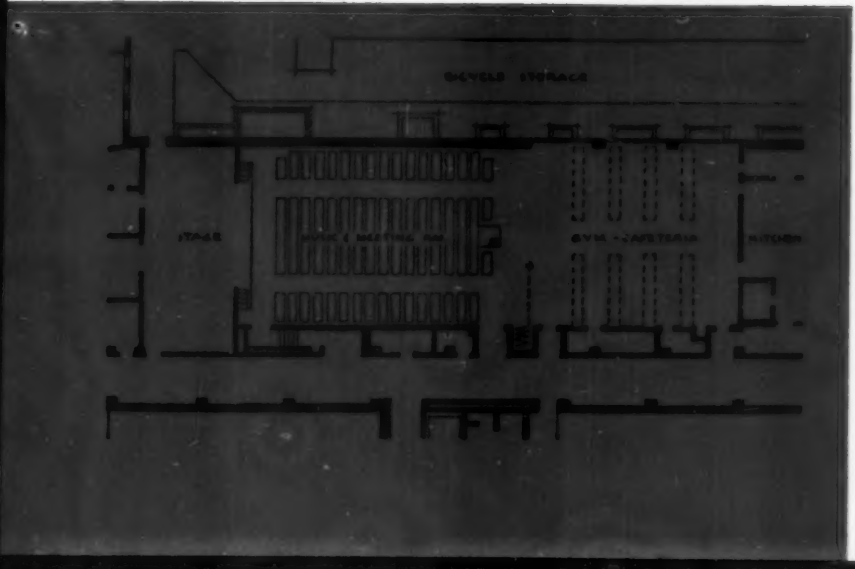
hand-printed cotton



glazed-tile wainscot

folding partition

in-folding tables



data

doors and windows

Doors: flush wood, maple, natural finish/ Hardwood Products Corp., Neenah, Wis.; metal doors and frames/ National Kalamein Co., 420 Lexington Ave., Brooklyn, N. Y.

Door Hardware: satin-chrome finish/ Schlage Lock Co., 2201 Bayshore Blvd., San Francisco, Calif.

Windows: steel sash/ Hope's Windows, Inc., Jamestown, N. Y.; clear sheet glass, "Pennvernon," tempered glass, "Herculite"/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.; obscure glass, "Luxite"/ Mississippi Glass Co., 88 Angelica St., St. Louis 7, Mo.

Window Blinds: vertical "Bambino"/ painted/ Holland Shade Co., 999 3 Ave., New York, N. Y.

furnishings and fabrics

Seats: natural-wood seat and back/ American Seating Co., 901 Broadway, N. W., Grand Rapids 4, Mich.

Chairs: metal folding/ gray finish/ Samson Div., Shwayder Bros., Inc., 4270 High St., Ecorse Station, Detroit, Mich.

Tables: in-wall folding/ tan Jaspe linoleum tops/ Schieber Mfg. Co., Brightmoor Station, Detroit 21, Mich.

Stage Curtain: proscenium/ #26696 cotton print/ J. H. Thorp & Co., Inc., 250 Park Ave., New York, N. Y.; cyclorama: #11.61 Heathertone/ Koniser, Inc., 1 E. 53 St., New York, N.Y.

lighting

Recessed Fixtures: flush/ baked-enamel finish/ Gruber Lighting, Inc., 125 S. 1 St., Brooklyn, N. Y.

walls, ceiling, flooring

Walls: plaster/ painted custom-color/ Sherwin-Williams Co., 101 Prospect Ave., Cleveland, Ohio; glazed-tile wainscots/ #C33L light-green, luster finish/ Claycraft Co., Toledo, Ohio.

Folding Partition: motorized operation/ Horn Brothers Co., Ft. Dodge, Iowa.

Ceiling: mineral "Softone"/ 12" sq. acoustical tile/ American Acoustics, Inc., 101 Prospect Ave., Cleveland, Ohio.

school spaces

steel-frame windows

oak parquet

area	lounge and ballroom
location	Student Union, Central State College, Edmond, Okla.
architects	Conner & Pojezny

An eye-appealing space contrast is achieved by the raised floor and lowered ceiling of the lounge, beside the ballroom. To accentuate this effect, there is an obvious texture contrast in the two areas. A much more intimate atmosphere is obvious in the lounge area. The exposed steel beams, columns, and rigid frame were proportioned on an analytical basis, but are an integral part of the interior design. Wood and brick are in natural colors, and exposed steel is painted gray-green, complemented by a lighter shade on the other painted areas. The ballroom was planned to accommodate 300 persons and the lounge takes an overflow or may be used alone for group meetings and other gatherings.

Photos: Julius Shulman

data

furnishings and fabrics

Chairs, Sofas, Tables: Brown-Saltman, 2570 Tweedy St., Southgate, Calif.; Buckstaff Co., Oshkosh, Wis.; Danby Co., 227 E. 47 St., New York, N. Y.; Dunbar Furniture Co., Berne, Ind.; Leathercraft Furniture Mfg. Co., 3045 E. 11 St., Los Angeles, Calif.

Upholstery Fabrics: Goodall Fabrics, Inc., 525 Madison Ave., New York, N. Y.; J. H. Thorp & Co., Inc., 250 Park Ave., New York, N. Y.

Drapery Fabrics: J. H. Thorp & Co., Inc.

lighting

Ballroom Ceiling Fixtures: #53-300, "Skylike"/ Silvray Lighting Co., RKO Bldg., New York, N. Y.

Fixtures (under balcony): #1313/ Kirlin Co., 3437 E. Jefferson at Ivan, Detroit, Mich.

Bracket Lights (on columns): #602A/ Litecraft Mfg. Co., 8 E. 36 St., New York, N. Y.

Exit Lights: #3010/ Daybrite Lighting, Inc., 5434 Bulwer Ave., St. Louis 7, Mo.

walls, ceiling, flooring

Walls: lower portion, selected common brick/ Acme Brick Co., 2500 N. W. 10 St., Oklahoma City, Okla.; gum plywood/ U. S. Plywood Corp., 55 W. 44 St., New York, N. Y.; upper portion, "Insulrock"/ Insulrock Corp., E. Linden Ave., Linden, N. J.; perforated asbestos cement/ Keasby & Mattison, Ambler, Pa.

Ceiling: ballroom, "Insulrock"/ Insulrock Corp.; lounge, "Thermacoustic"/ National Gypsum Co., 325 Delaware Ave., Buffalo 2, N. Y.

Flooring: ballroom, oak parquet/ E. L. Bruce Co., Memphis, Tenn.; lounge, rubber tile/ Armstrong Cork Co., Lancaster, Pa.

Stair Treads: alundum-bearing rubber/ Servicised Products Corp., 6051 W. 65 St., Chicago 8, Ill.

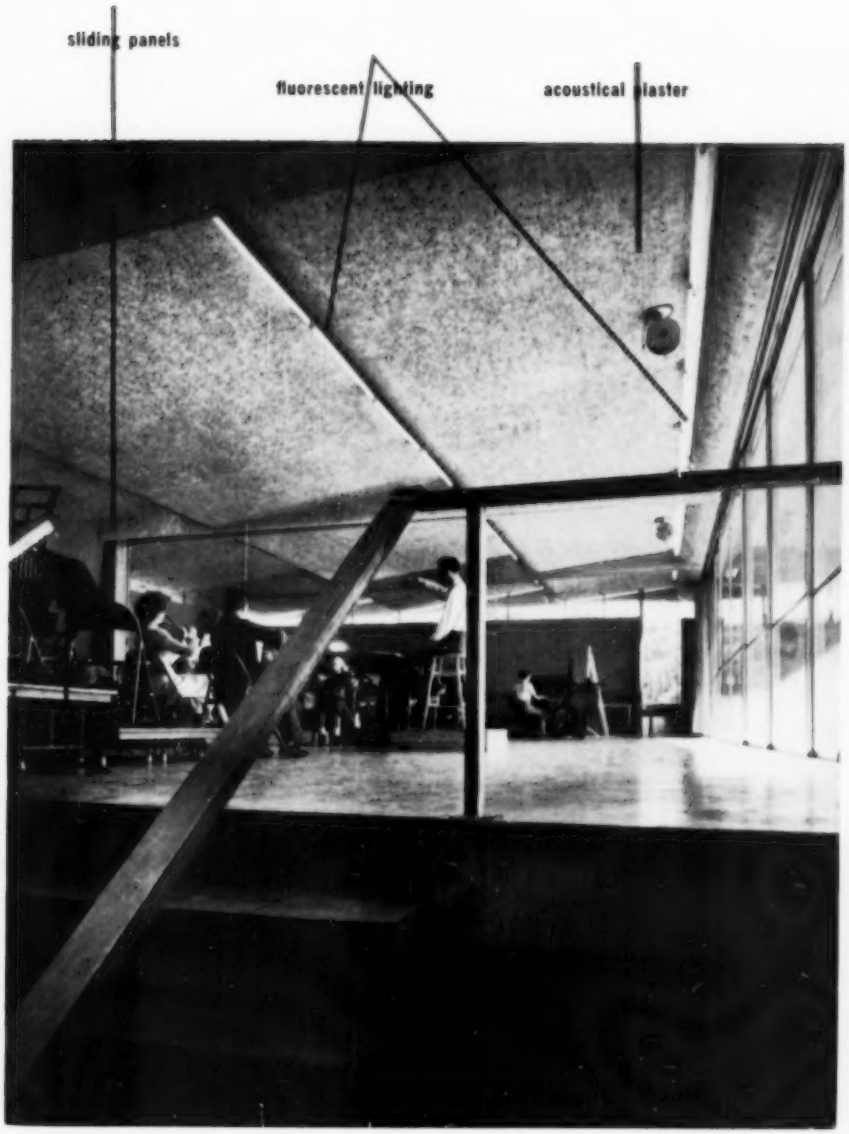
windows

Ballroom Windows: Donovan type/ Truscon Steel Co., 1315 Albert St., Youngstown, Ohio; ¼" Solex plate/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.; ⅛" "Coolite" glare-reducing glass/ Mississippi Glass Co., 88 Angelica St., St. Louis, Mo.

Lounge Windows: architectural projected/ Truscon Steel Co.; ¼" plate glass/ Pittsburgh Plate Glass Co.; light troughs, ⅛" "Reglex"/ Mississippi Glass Co.

school spaces

area	band and choral rooms, indoor-outdoor stage
location	Fine Arts Building, Central State College, Edmond, Okla.
architects	Conner & Pojezny



Immediately obvious is the facility provided for open-air performances. The 7′ x 12′ doors slide to open the stage to the amphitheater. Inside, portable panels separate practicing band and choral groups, or may be moved to accommodate joint rehearsals. Especially tricky was the problem of having proper acoustics. As designed, a person may be heard from the rear of the amphitheater without any electrical amplification or reinforcement. In all, an unbelievable number of activities may be conducted here, either individually or jointly. *Photos: Julius Shulman*

data

cabinetwork

Instrument Storage Cabinets: Walton Manufacturing Co., Oklahoma City, Okla.

Hardware: Stanley Works, New Britain, Conn.

doors and windows

Doors: aluminum, sliding, glazed/ Glide Windows, Inc., 7463 Varna Ave., North Hollywood, Calif.

Glass: ¼" plate glass/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.; ¼" plate, glare-reducing/ Mississippi Glass Co., 88 Angelica St., St. Louis 7, Mo.

equipment

Radio Broadcasting Equipment: Radio Corporation of America, Front & Cooper Sts., Camden, N. J.

furnishings and fabrics

Chairs: Heywood-Wakefield Co., Gardner, Mass.

Risers: Mitchell Manufacturing Co., 2525 Clybourn Ave., Chicago, Ill.

Drapery Fabric: "Monterrey" casement, beige-and-gold/ J. H. Thorp & Co., Inc., 250 Park Ave., New York, N. Y.

lighting

Ceiling Fixtures: #430MA slimline/ T12 strips/ Sylvania Electric Products, Inc., 1740 Broadway, New York, N. Y.

Footlights: #5-300/ on conduits/ "Steberlite"/ Steber Manufacturing Co., 2700 Roosevelt Rd., Broadview, Ill.

walls, ceiling, flooring

Walls: selected common brick/ United Brick Co., Oklahoma City, Okla.; striated plywood/ U. S. Plywood Corp., Louisville, Ky.

Sound-Insulated Panels: covering, "Fabrikona"/ H. B. Wiggins Co., Arch St., Bloomfield, N. J.; Walton Manufacturing Co.; Oklahoma City, Okla.

Ceiling: "Thermacoustic"/ National Gypsum Co., 325 Delaware Ave., Buffalo, N. Y.

Flooring: asphalt tile/ "Azrock"/ Uvalde Rock Asphalt Co., P. O. Box 531, San Antonio, Tex.

Stair Treads: alundum-bearing rubber/ Servicised Products Corp., 6051 W. 65 St., Chicago 8, Ill.

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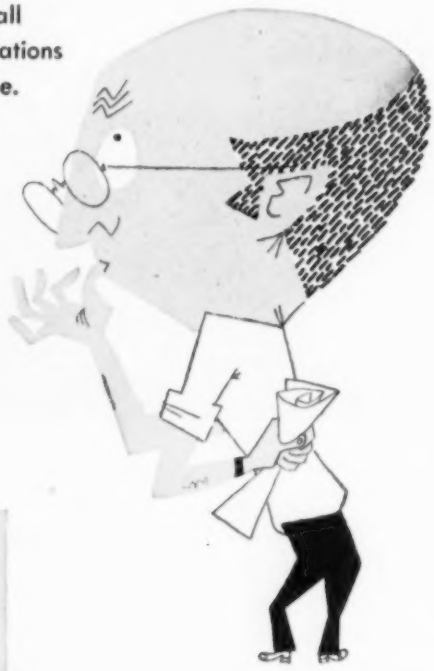

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Company	Year Installed	Company	Year Installed
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N. W. Ayer Co., Phila., Pa.	1946	Eli Lilly Co., Indianapolis, Ind.	1934
Bethlehem Steel Co., Bethlehem, Pa.	1943	McDonnel Aircraft Corp., St. Louis, Mo.	1949
Wm. H. Block Co., Indianapolis, Ind.	1936	Pittsburgh Post Gazette, Pittsburgh, Pa.	1937
General Motors, Chevrolet Motor Div., Detroit, Mich	1935	Temple U., Phila., Pa. (Dean's Office)	1944
D'Arcy Adv. Co., St. Louis, Mo.	1948	Toledo Public Library, Toledo, O.	1935
Ethyl Corp., Detroit, Mich.	1935	University Club, San Fran., Cal.	1937
J. L. Hudson Co., Detroit, Mich.	1935	Zurich Accident & Liability Ins. Co., Chicago, Ill.	1935
Illinois Bell Tel. Co., Chicago, Ill.	1938		

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In Canada: Paul Collet & Co., Ltd., Montreal

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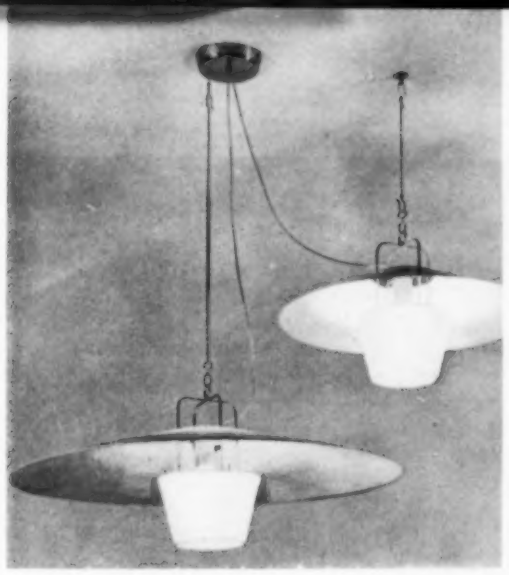
p/a interior design products

Articles on this page are from a design competition at the Akron Art Institute, created to encourage the young designer who is making a contribution to the design field but is not yet recognized nationally. Particularly interesting is the concentration on design for younger people—a simplification of design which permits economy in production and thereby more reasonable prices for the products.



Ceiling Fixtures: 34¼" diameter Fiberglas shade or 24" diameter white-metal shade/ white lumerith baffle/ adjustable height/ **retails:** $65 and $58, $10 additional for frame and canopy in brass finish/ **Douglass Bennett Designs, 1021 Northern Life Tower, Seattle, Wash.**

Portable Swivel Lamp: # 50/ spun-aluminum reflector/ 3/16" steel-rod base/ hangs on wall, stands, or clips to a shelf/ dull, baked-enamel finish in black, pewter, coral, yellow, or teal/ **retail:** $7/ **Gross Wood & Co., 230 Natonia St., San Francisco, Calif.**

Expanded Metal Furniture: # TM23 Room Divider/ 6' x 5' x 14"/ **retail:** $130/ # TM28 Coffee Table/ 20" x [illegible] x 15" high/ **retail:** $25/ designed by Archie Kaplan/ **New Dimensions Furniture, Inc., 26 W. 23 St., New York 10, N. Y.**

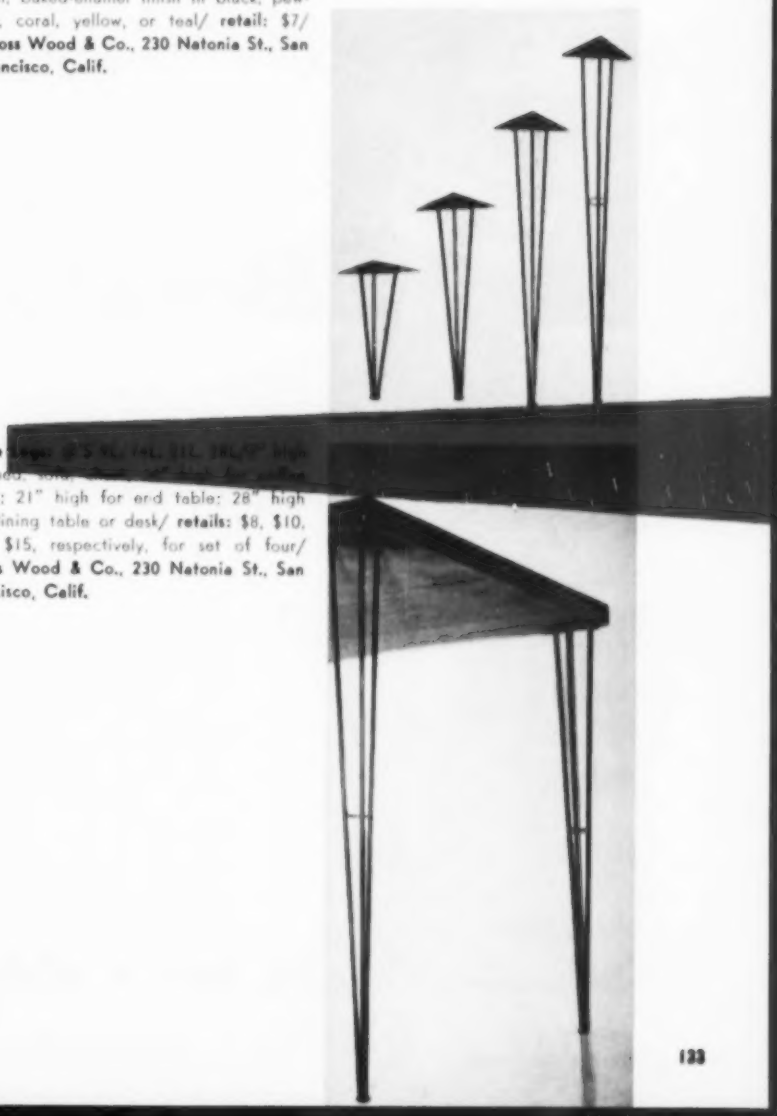
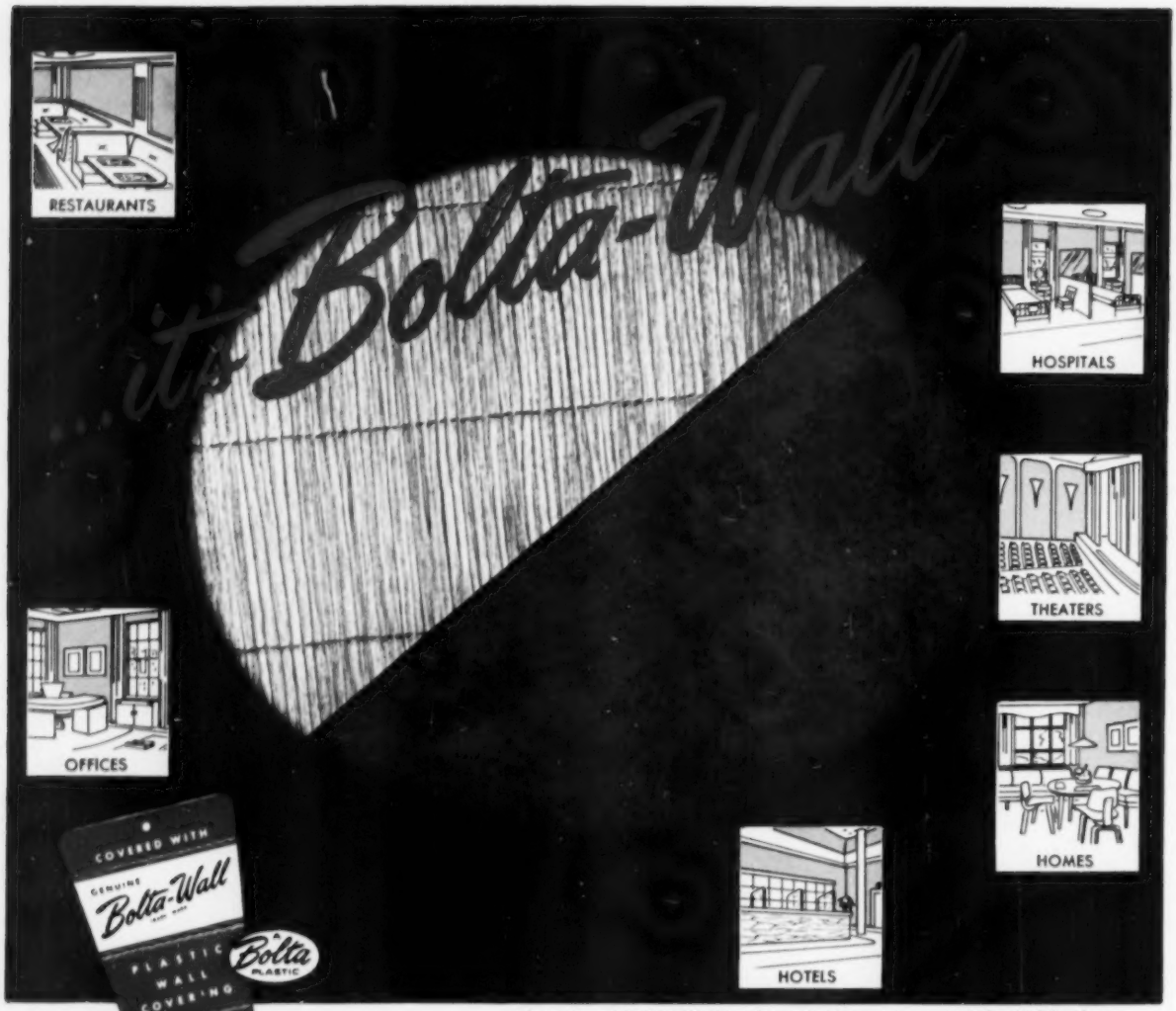


Table [illegible] for bed; [illegible] table: 21" high for end table: 28" high for dining table or desk/ **retails:** $8, $10, $12, $15, respectively, for set of four/ **Gross Wood & Co., 230 Natonia St., San Francisco, Calif.**



Shown in red is Bolta-Wall Leathergrain Pattern; in grey is Bolta-Wall Bamboo.

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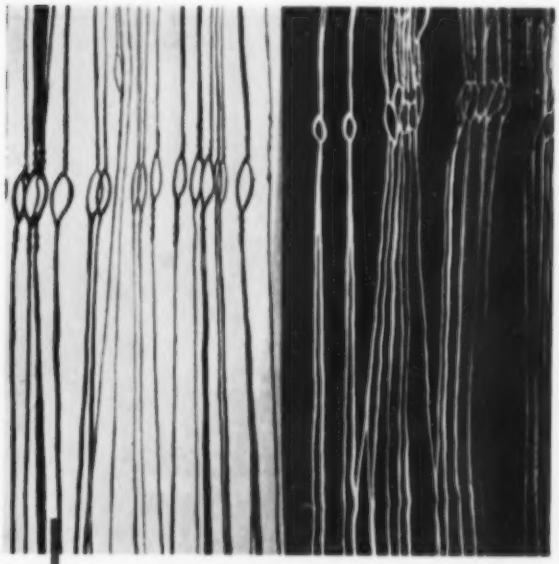
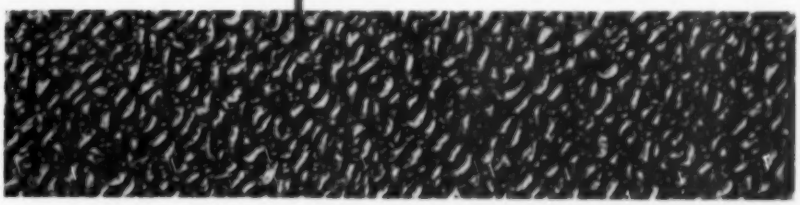
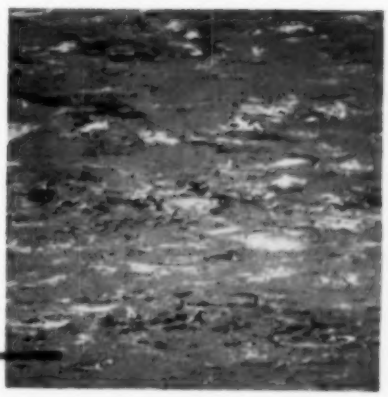


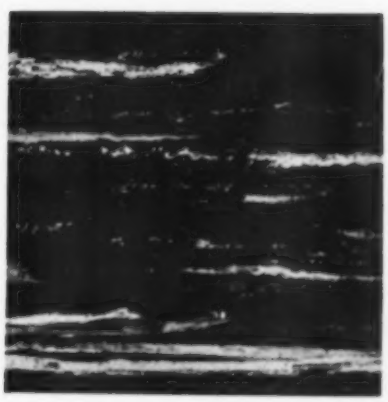
Hand-printed Fabric: "Fibra"/ linen/ design taken from the heddle of a loom/ available in black on natural; white on natural; blue, orange, white, and black on natural; black on white; white on black; navy, royal, turquoise and green on blue; red, orange, pink on orange/ pattern repeat, 36", 50" wide/ designed by Eszter Haraszty/ **retail:** $5.40 a yd/ **Knoll Textiles, Inc., 575 Madison Ave., New York, N. Y.**

Stainproof Wall Covering: "Basket weave"/ available in backgrounds of gray or sage green/ **retail:** $.12½ a sq ft/ Varlar/ **United Wallpaper, Inc., Merchandise Mart, Chicago 54, Ill**

Textured Plastic Upholstery: "Canyon Tweed"/ available in eight colors—parchment, coral, yellow, red, spring green, aqua, beige, and dark green/ 54" wide/ 20-gauge sheeting/ **Bolta Products Sales, Inc., Lawrence, Mass.**







Flooring: "Kenflex" vinyl-asbestos tile/ 9" square in standard and ⅛" thickness/ available in 14 colors/ greaseproof, alkali-proof, fire-resistant/ **retail:** $.17 a tile/ "Kenrubber" rubber tile/ Standard Gage/ 9" square/ available in 13 colors/ **retail:** $.19 a tile/ **Kentile, Inc., 58 Second Ave., Brooklyn, N. Y.**

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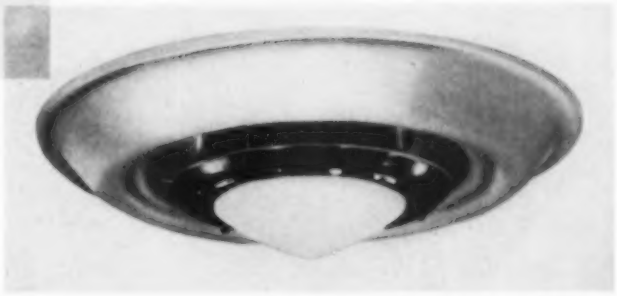
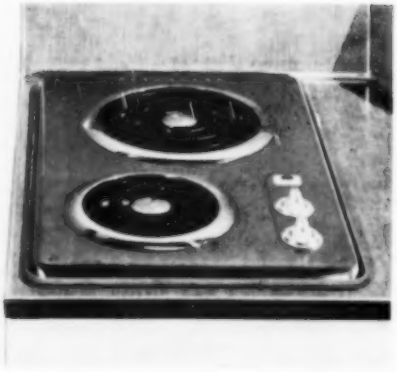
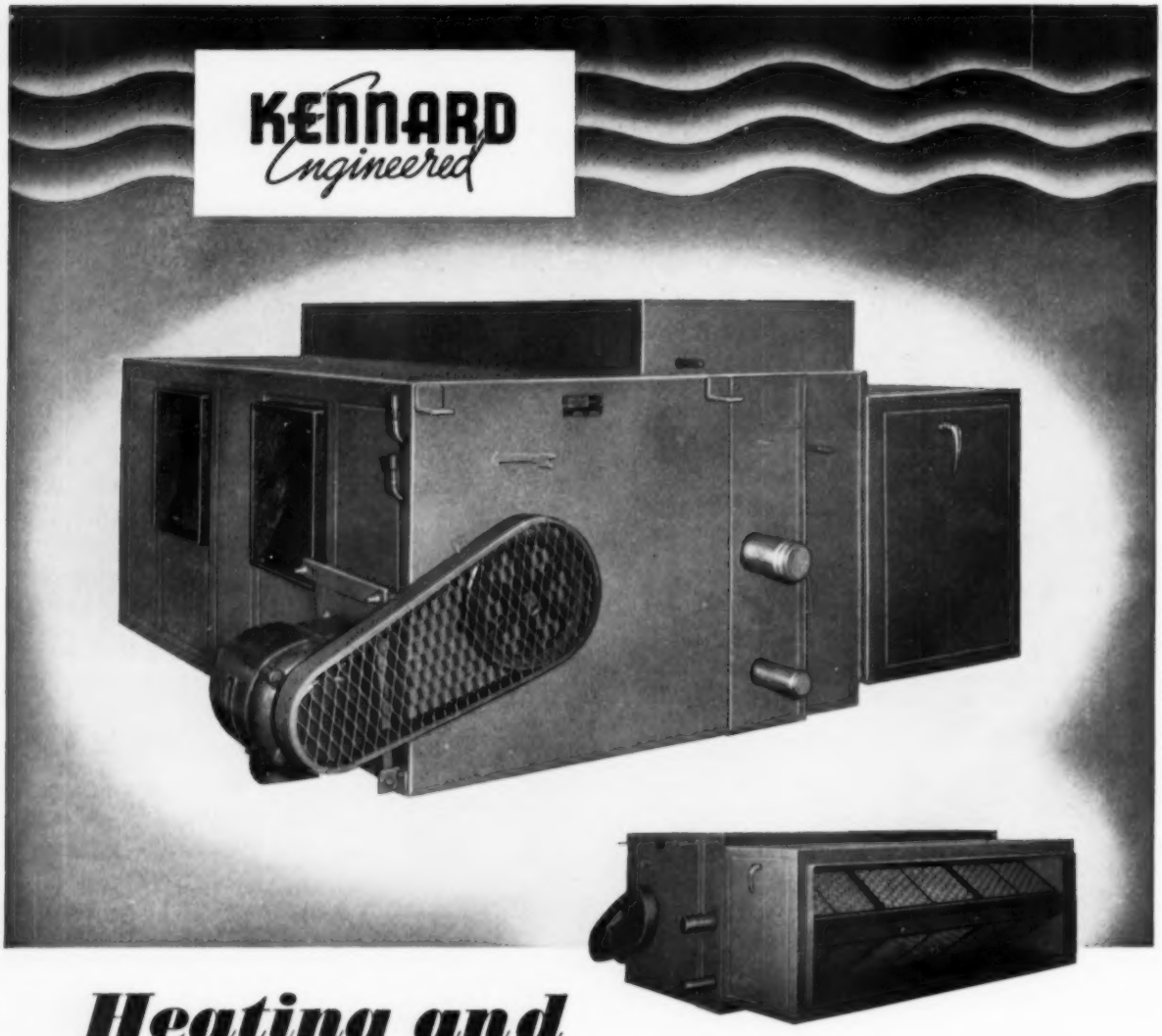


Extension Dining Table: # 5260/ seats six or eight/ folding leaf is concealed beneath top/ X-legs available in white, black, or chrome finish/ 36" x 54", extends to 72"/ designed by George Nelson/ **retail:** $182 in rosewood, $167 in oak and walnut/ **Herman Miller Furniture Co., Zeeland, Mich.**



Cooking Unit: "Built-in Range"/ two units to be used for limited space/ combination of any number may be used for larger areas/ stainless steel/ 13½" x 20¾"/ **Thermador Electrical Mfg. Co., 5119 District Blvd., Los Angeles 22, Calif.**



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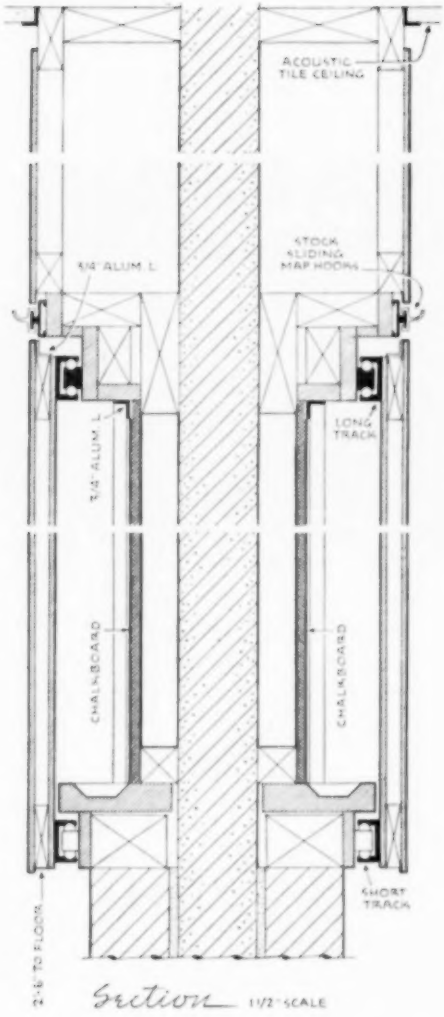
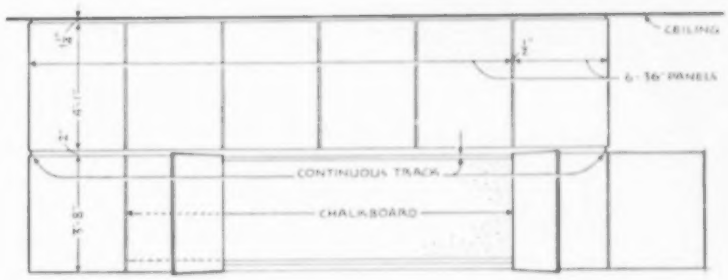
school: classroom chalkboard

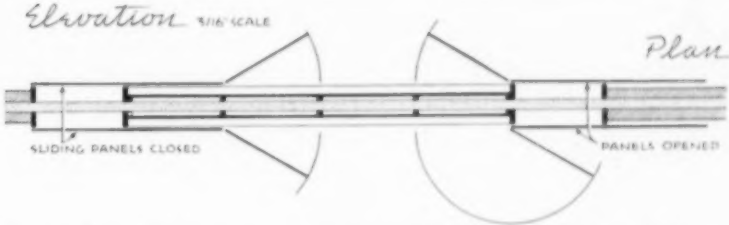
LIONEL FREEDMAN



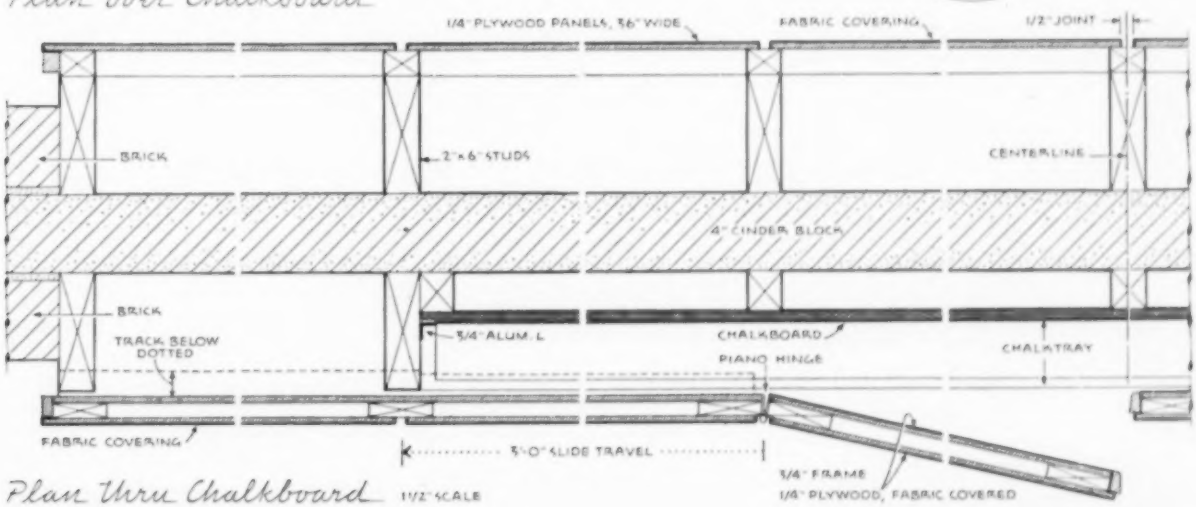
Section 1½" SCALE



Elevation 3/16" SCALE



Plan over Chalkboard

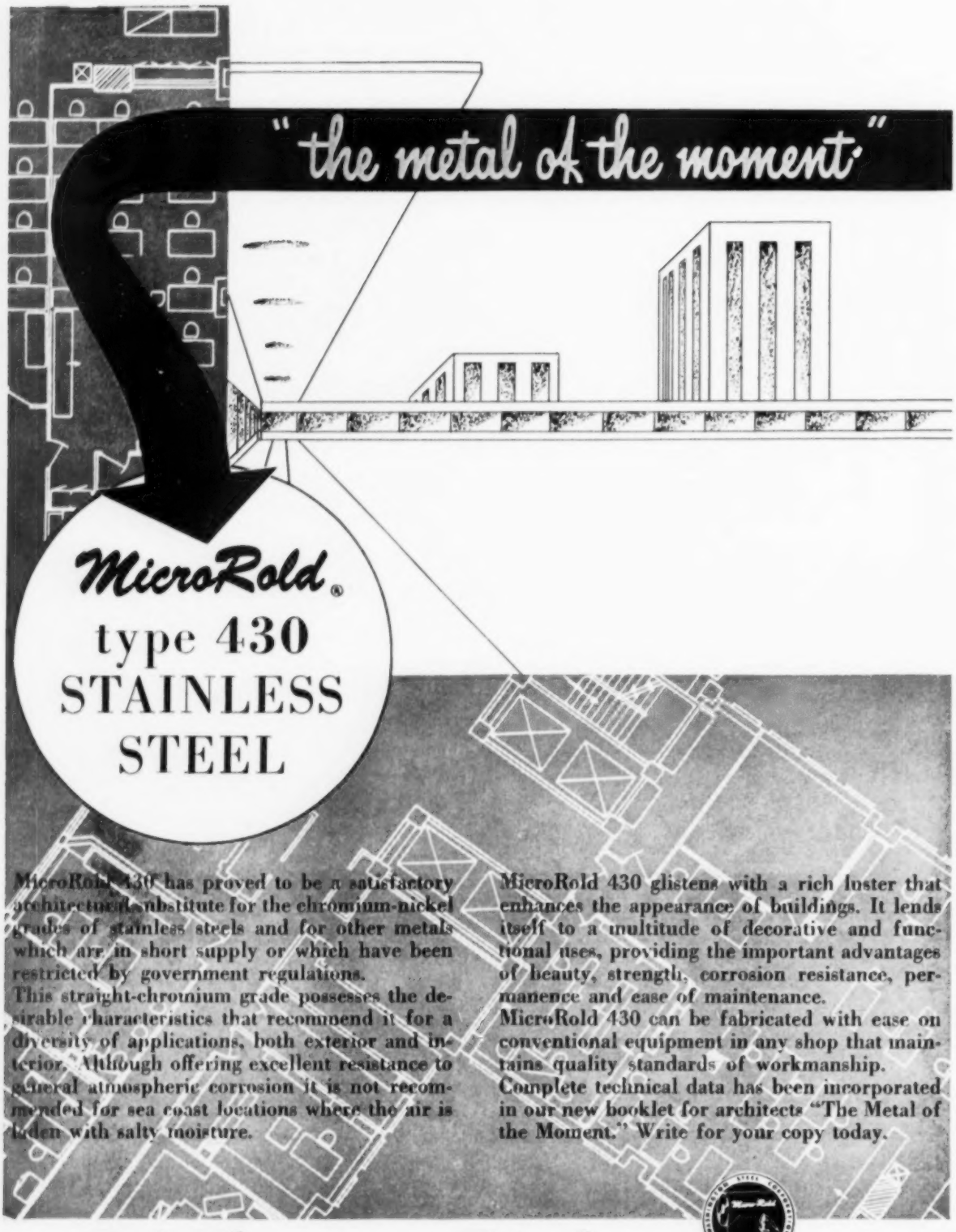


Plan thru Chalkboard 1½" SCALE

DARIEN JUNIOR HIGH SCHOOL, Darien, Conn.

Ketchum, Giná & Sharp, Architects

Moore and Hutchins, Consulting Architects



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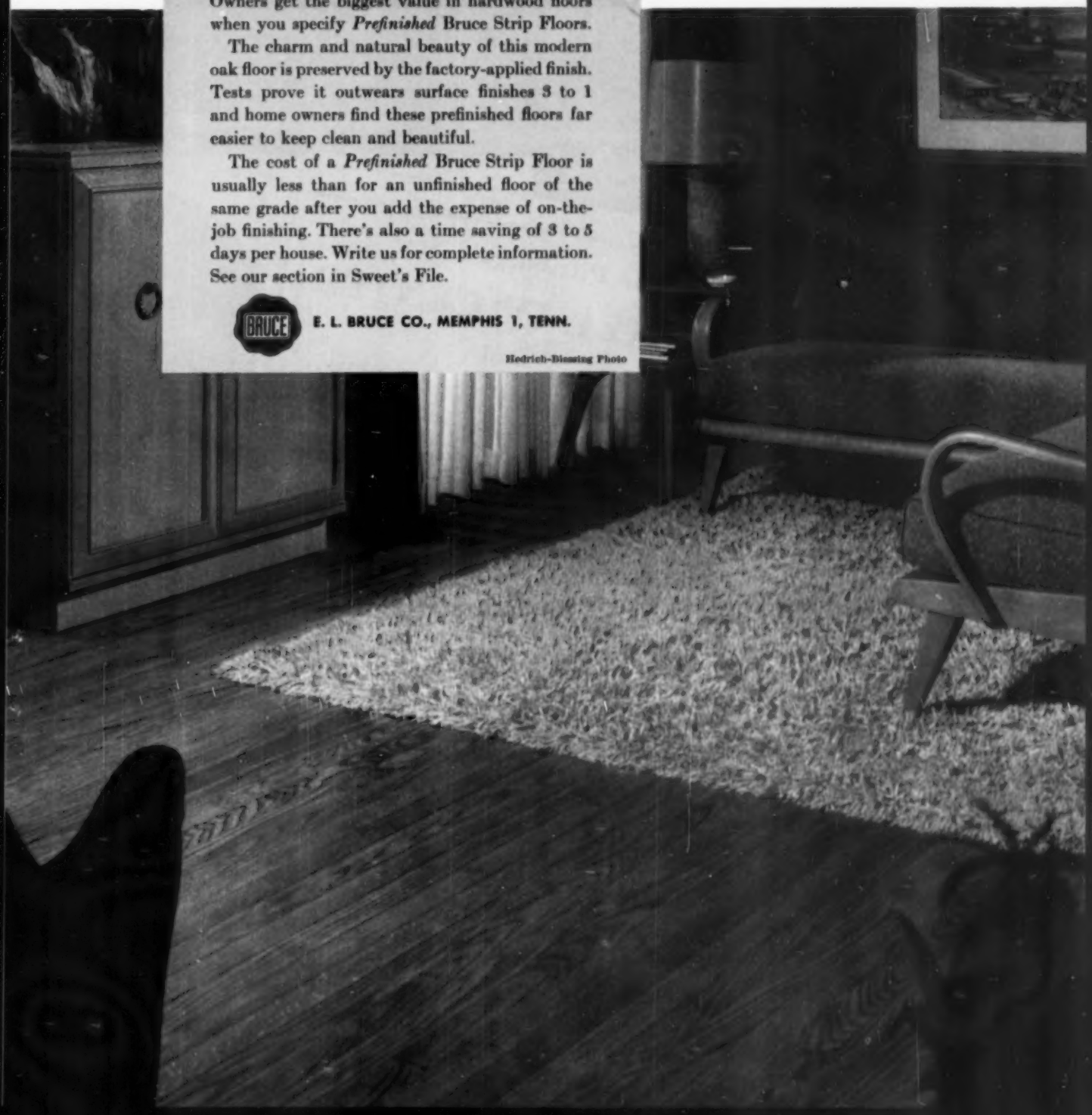
Hardwood Floor



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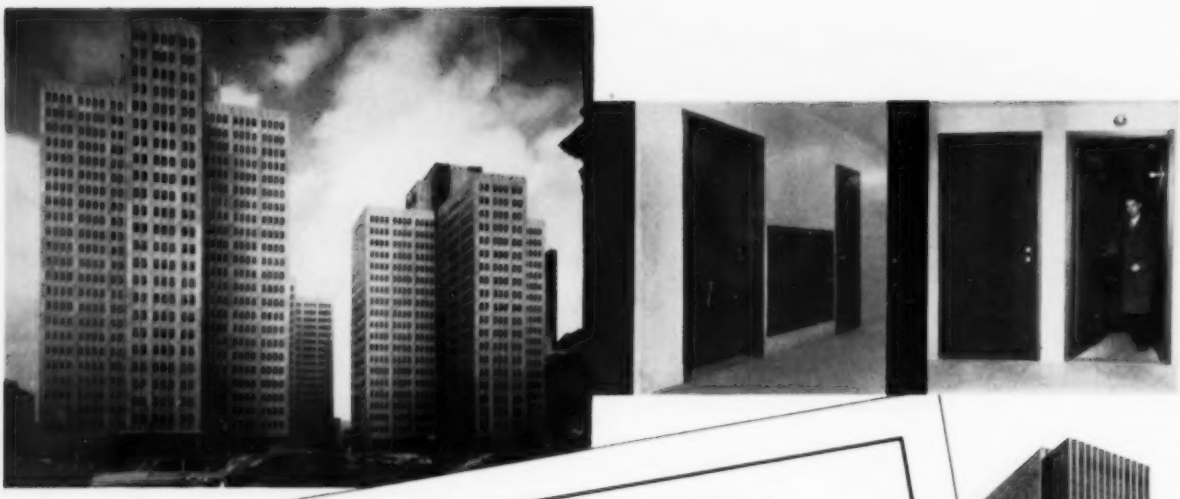
Hedrich-Blessing Photo

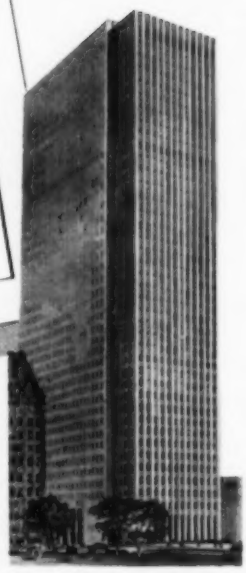


In Pittsburgh's New

GATEWAY CENTER

and

525 Wm. PENN PLACE



• 525 Wm. Penn Place

USF Hevi-Duty Commercial Doors and Frames Used Throughout

Yes, in the three gleaming stainless steel towers of Pittsburgh's new Gateway Center office building project, USF Hevi-Duty Commercial Hollow Steel Doors and Frames were used throughout the entire building core. Yes, in Pittsburgh's new 525 Wm. Penn Place Building, USF Doors and Frames were used, too. The reasons: initial economy, clean design and workmanship, low cost installation and completely dependable durability. Why not investigate?

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USF

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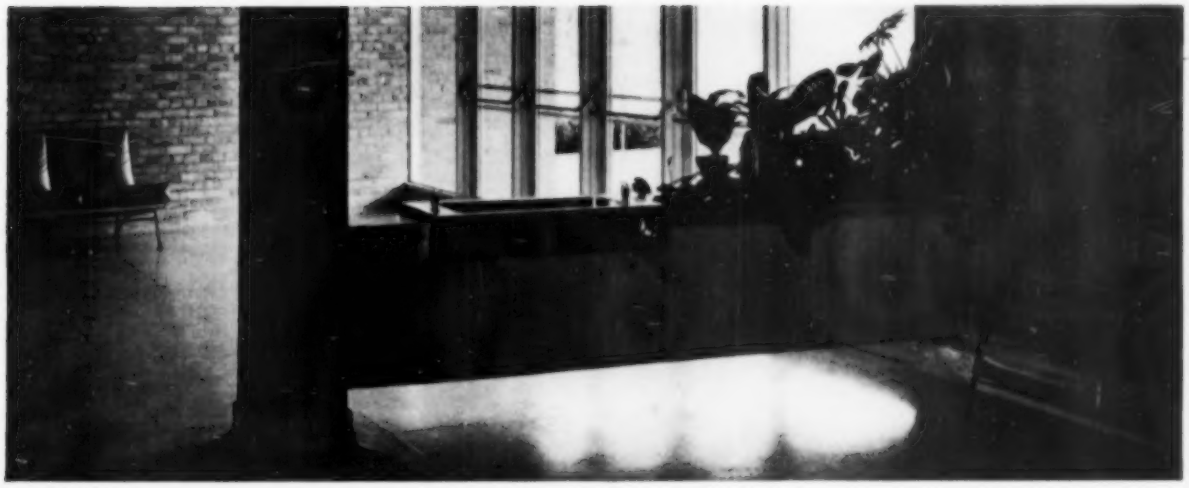
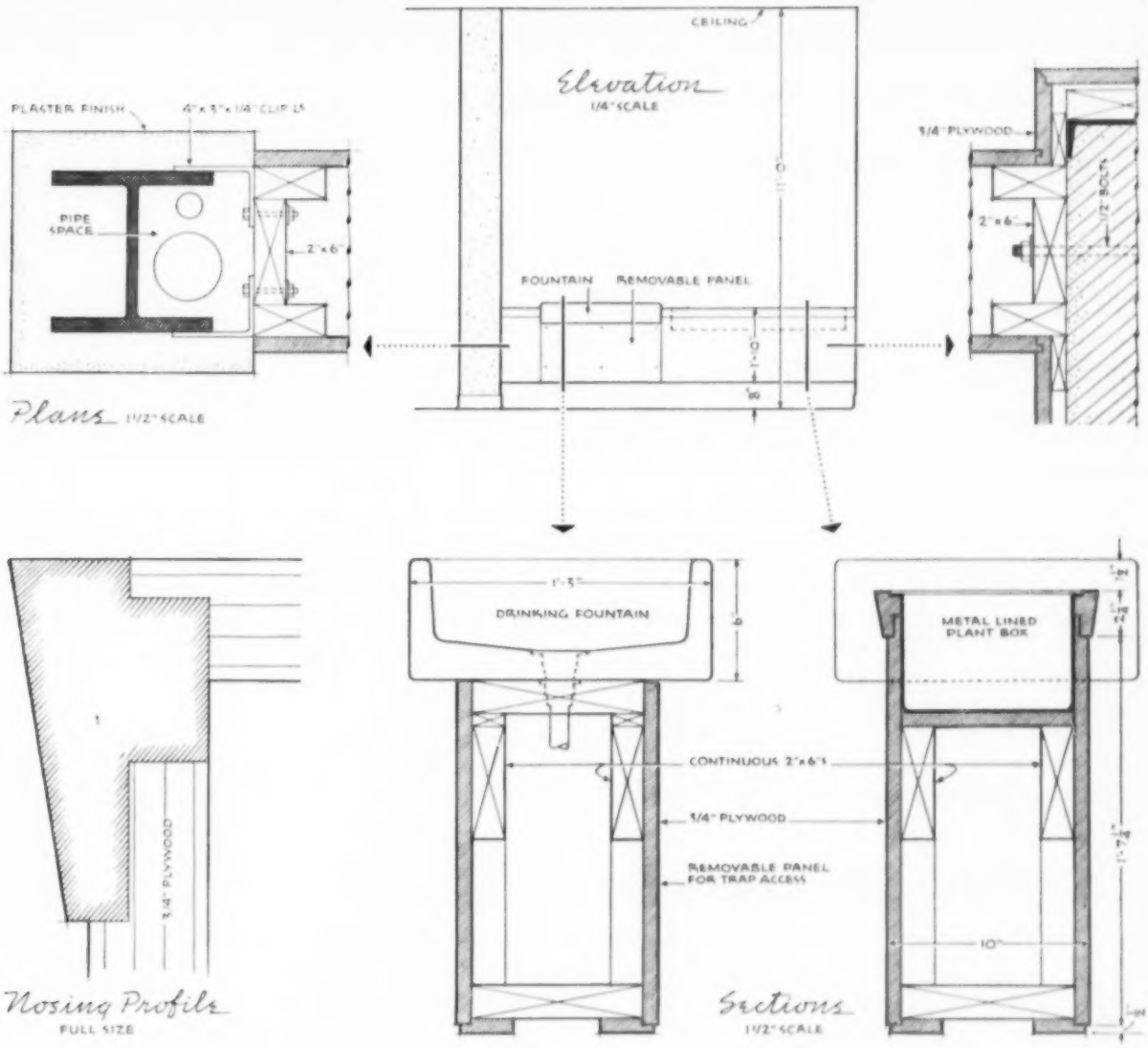
WOOSTER, OHIO

school: drinking fountain-plant box



RICHARD SHIRK



BIRMINGHAM HIGH SCHOOL, Birmingham, Mich.

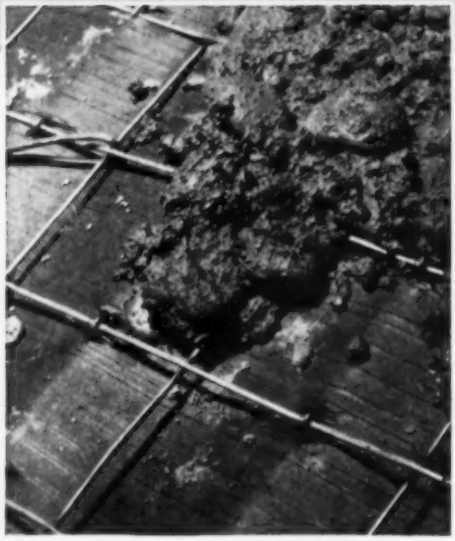
Swanson Associates, Architects

Broad decks of this modern function-engineered school poured over STEELTEX FLOOR LATH

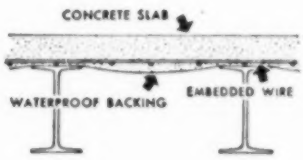
When architect J. Robert F. Swanson and his staff at Swanson Associates in Bloomfield Hills, Michigan, set out to design the splendid new Birmingham, Michigan, Senior High School, they did far more than simply construct a handsome structure to house a specified number of students. For two years they joined in study with Birmingham school officials to exactly determine local educational philosophy and objectives, and crystalized their thinking with an on-the-spot survey of the best school facilities throughout the free world. The result was a low, wide-spread campus-type of structure, requiring many thousands of feet of concrete decks.

The architects specified that the concrete be poured over Steeltex Floor Lath, and they did so for very good reasons. The strong welded-wire mesh added great strength to the slab, while the tough water-proof backing permitted work on the floor below and assisted in proper curing of the concrete. These inherent virtues tended to allow greater latitude in deck design.

If you are not completely familiar with the use of Steeltex in concrete floor construction, it may well be of profit to you to contact us or consult our catalog data in Sweet's before designing your next structure. For details, write for Catalog D.S. 133, Dept. PA, Pittsburgh Steel Products Company, Grant Bldg., Pittsburgh 30, Pa.



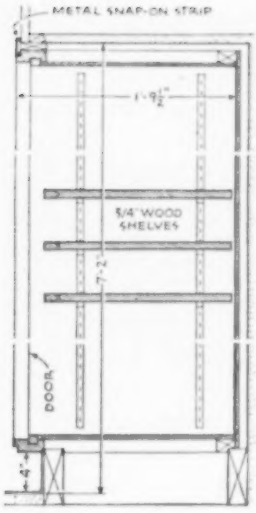
Note, in the cross-section and close-up that the weight of the wet concrete forces the backing away, which permits the galvanized welded wire mesh to assume its proper position in the slab. Steeltex Floor Lath also performs two other functions. It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.



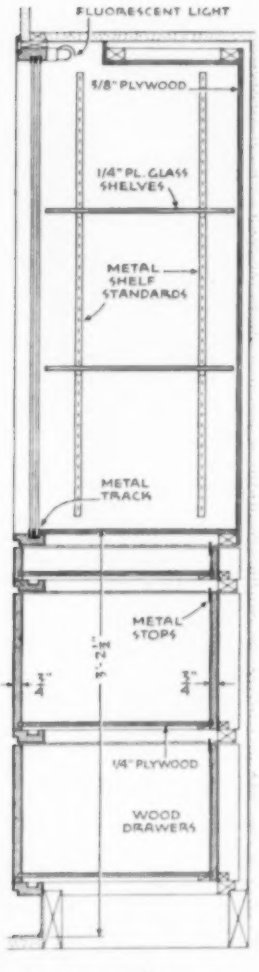
Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

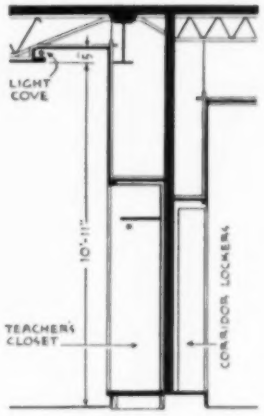
school: classroom storage wall



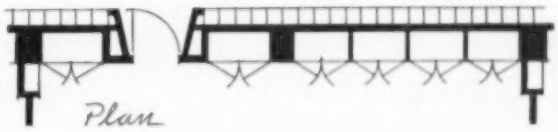
Section C 3/4" SCALE



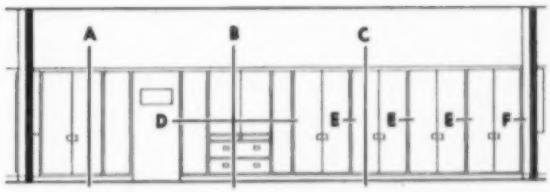
Section B 3/4" SCALE



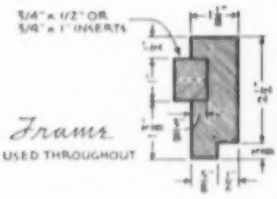
Section A 3/16" SCALE



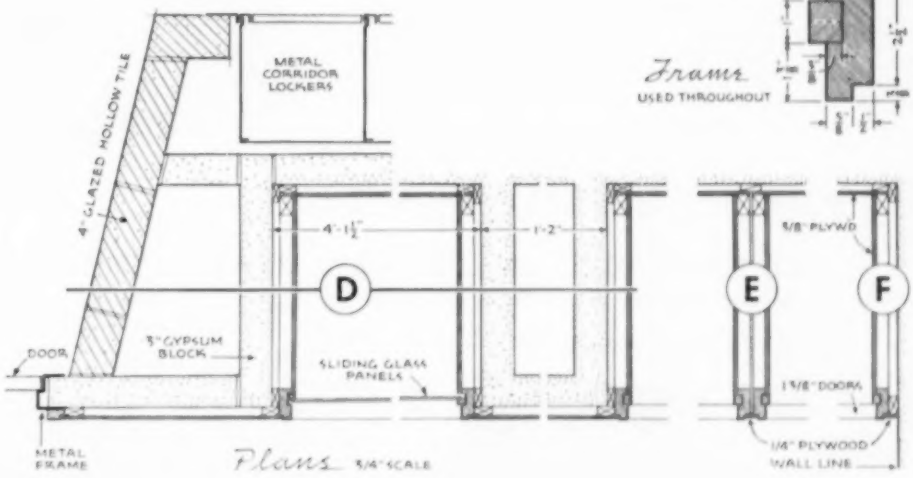
Plan



Elevation 3/32" SCALE



Frame
USED THROUGHOUT



Plans 3/4" SCALE

BIRMINGHAM HIGH SCHOOL, Birmingham, Mich.
Swanson Associates, Architects

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by Bernard Tomson

it's the law

This month we continue reporting the case summaries and other matters of interest supplemental to Tomson's *Architectural and Engineering Law* (Reinhold 1950), begun on this page in our May issue.

RIGHT TO COMPENSATION

An architect or engineer is entitled to compensation for preparing plans and specifications and supervising construction of a project where he is employed in such capacity and substantially performs his duties under the contract.

Mississippi. *Greco v. Lutrich*, 55 S. 2nd, 139 (1951). An architect agreed to furnish plans and specifications for the erecting of a commercial building to be used by defendant, who under the agreement paid a retainer fee which was to be credited upon total charge of three percent of the lowest and best contractor's bid received for the actual construction of the building. Plaintiff was permitted to bring an action within a reasonable time to recover three percent of the lowest bid less allowance already paid to him where the defendant did not let the contract at the bid stated or at any bid.

AMOUNT OF COMPENSATION

The amount of the architect's or engineer's compensation is measured by the terms of his contract with the owner. Where the contract does not make provision for compensation, the owner is liable for the reasonable value of the services properly rendered by the architect or engineer.

U. S. (Ct. of App.) *Wildermuth et al. v. U. S.*, 195 F 2nd 18 (1952). Plaintiff brought an action under the Tucker Act to recover additional compensation for architectural services rendered under a contract with the Federal Works Administrator. The contract provided that all disputes arising under the contract should be decided by an administrator whose decision should be final and conclusive on the parties. Upon the abandonment of the project the Commissioner of the Bureau of Community Facilities, who had taken over the functions of administrator, determined that the architects were entitled to a certain amount of compensation under the contract. The Court held in the absence and failure to allege or prove fraud on the part of the Commissioner, the architects were not entitled to additional compensation.

●

Illinois. *Alden v. Stromsen*, 347 Ill. App. 439, 106 N.E. 2nd 837 (1952). In a suit for engineering fees the defendant relying upon plaintiff's estimate as to the total cost of the engineering services rendered, which was approximately $1,175, the Court in upholding a verdict for $4,746.82 declared it was within the province of the jury to determine whether or not additional services were involved and authorized and the nature, extent and value thereof.

●

Washington. *Batcheller et al. v. Town of Westport*, 235 P. 2nd 471 (1951). A consulting engineer sued a municipality to recover for engineering services rendered upon a contract of employment. Under a statute requiring the passage of municipal ordinance containing a plan or system for construction of a water system and the estimate of cost and method of payment; where such ordinance is passed on the advice of an architect or engineer, specifying the amount of funds to be made available for the payment of the project, the Court declared that it becomes a part of the contract of employment and thus fixes the limits within which an architect or engineer must perform. The municipality was under no obligation to change the plan or system ordinance to comply with the shortcomings in his performance.

While the plaintiffs failed to perform their contract, they did perform valuable services which resulted in tangible benefits to the municipality so that plaintiffs were permitted to recover the reasonable value of their services.

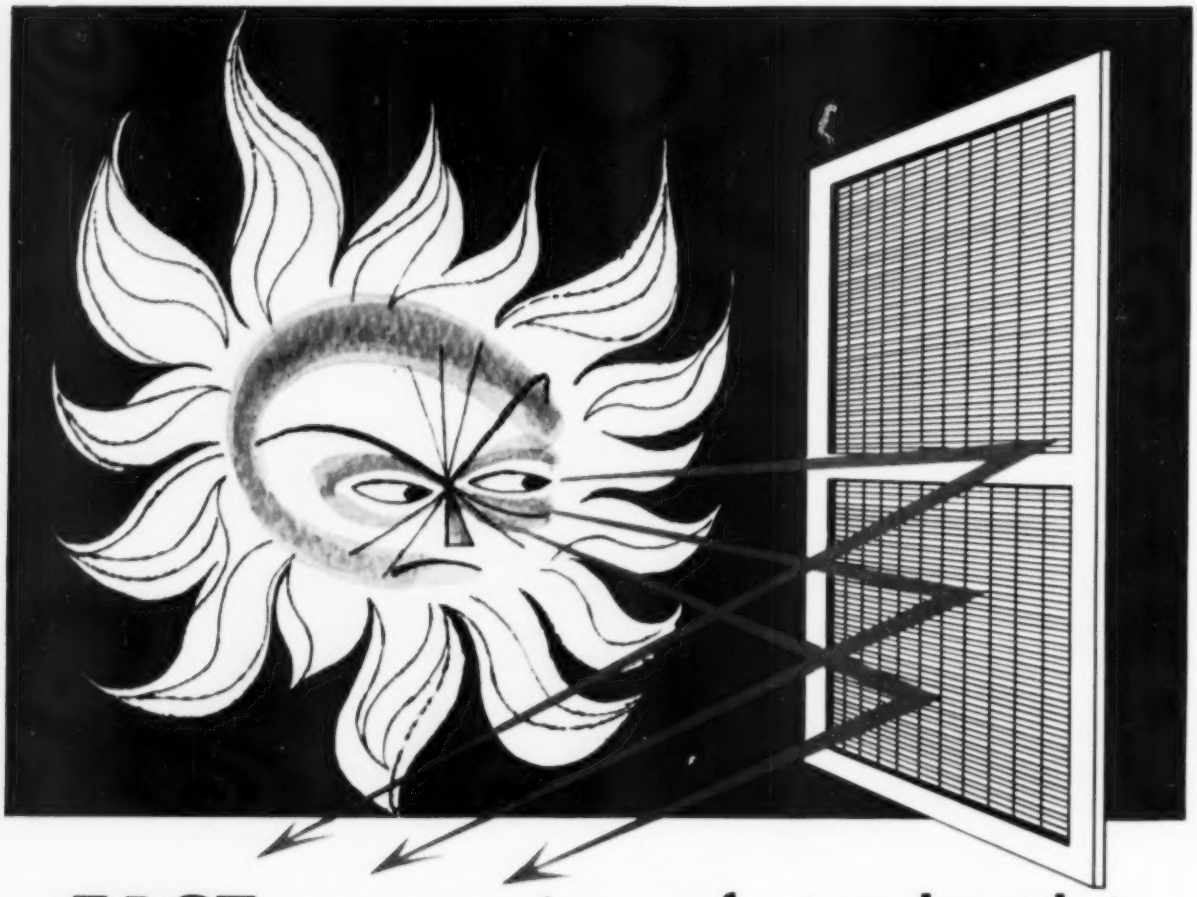
EFFECT OF COST LIMITATION ON COMPENSATION

Where an architect or engineer undertakes to prepare plans for a structure not to cost more than a specified sum, he is not entitled to compensation unless the structure can be erected for the stipulated sum. However, where there is no agreement as to cost, or where the architect or engineer merely furnishes an estimate of the cost, his right to compensation is not affected if the actual cost exceeds the estimate or the amount the owner expects, or is willing to pay.

Michigan. *Zannoth v. Booth Radio Station*, 333 Mich. 233, 52 N.W. 2nd 678 (1952). The plaintiff architect was retained to draw plans for a radio studio and transmitter building. A cost limitation was imposed by the owner after the execution of the contract. The architect was held to be precluded from recovery for services in connection with the contract as there was a breach of his duty to make full disclosure to the owner when he proceeded to draw plans which he knew would far exceed the defendant's ability and willingness to pay and with knowledge that it was not within the owner's contemplation to erect such an expensive building.

The architect was entitled to compensation for his services prior to the imposition of cost limitation even though the contract was subsequently breached by his failure to stay within the cost limitation.

Plaintiff could not recover on *quantum meruit* for work done after the cost limitation was set, for the defendant received no benefit from work done during any of that time as the plans were drawn contrary to defendant's instructions and could not be used.



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A small charge is being made for this convenient tool. The calculator and one latitude-slide costs $2.00 and additional latitude-slides cost $1.00 each. Latitudes include 26°, 30°, 34°, 38°, 42° and 46°*. Send the coupon today.*

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by Carl Feiss

out of school

See where the truly modern families sit
And through the picture windows look;
Beside the indoor-outdoor lawn a can of Flit,
An aspidistra in the nook.

O'er dusty leaves of rubber plants,
Where colored bulbs are always lit
And gnarled branches catch the pants,
There floats a dream of terraced gardens,
Of sunny vales where no concrete hardens,
All climatologically a perfect fit.

Oh, that my little house was not—
I'd sit me under an oak and rot!

The dilemma we architects of today face is that having opened up our buildings to the great out-of-doors, we discover that Nature doesn't quite come up to our expectations—in fact it hasn't prepared any stock designs for our pleasure and comfort. When we knock out a wall, there just doesn't happen to be the a propos and free, God-provided tree in the exact location to cut glare and heat and provide shade on the flagstone terrace and to stay green and bugless all summer long. The view does not turn out to be the set piece a view is supposed to be, the neighbors are more curious about our private affairs than they should be, the ground just happens to be acid and full of brick chips, and nobody told me or you or anybody else that dahlia bulbs cost 75¢ apiece and don't come up anyway. All is not beer and skittles, my friends, in the outdoor living rooms of our clients—and for that matter our own either. And winter comes, the winds are chill, the plate glass black and cold against the empty night. We draw the curtains to shut out the dreary expanse of something that didn't quite come off the year around. What happened to a good idea?

The fact is, we need the landscape technician more than ever before. We need him in and around all our contemporary and comprehensive architecture. We need him in our large-scale housing and our city plans. And we need modern-minded landscape architects trained like me to cotton up to Mother Nature, but to apply more science to the parterre de broderie.

For the purpose of demonstrating a prejudice in favor of my thesis let me mention for the record that in 1925 I began my professional training under the

(Continued on page 150)

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puts "NEW LIFE" in your library.
It's done with exact scale models
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An accurate presentation, thru
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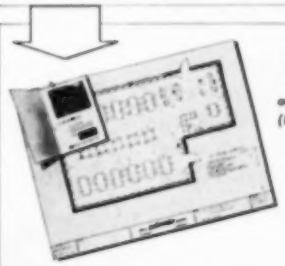

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out of school

(Continued from page 149)

wise guidance of Robert Wheelwright and Frank Schrepfer in the Department of Landscape Architecture at the University of Pennsylvania.

My April 1950 column discussed briefly the relationship of the teaching of landscape architecture to the development of the schools of planning. In several other issues I have mentioned training in landscape architecture and have hinted at what has semed to me a trend which appears to be diminishing the field. Fortunately, at last there has been a response and I include in this issue the following fine letter from Professor D. Newton Glick, Chairman of Landscape Studies in the Department of Landscape Architecture and Urban Planning of Michigan State College at East Lansing, Michigan:

Dear Mr. Feiss: I always look forward to your column in PROGRESSIVE ARCHITECTURE and have just read with a great deal of interest your remarks in the April 1953 issue relative to trends in architectural education. My primary concern, however, lies in the training of landscape architects and right now particularly with graduate training. That will be the subject of one of our panels in our Educators' Conference on Landscape Architecture which will be held at Michigan State College in June. We are already assured of attendance of instructors from Harvard, Rhode Island School of Design, Cornell, Pennsylvania State, North Carolina State, Georgia, Alabama Polytechnic Institute, Michigan, Illinois, Ohio State, Iowa State, and California, and no doubt there will be others.

At this conference we wish to have as much data as possible regarding the availability of graduate work in landscape architecture. Since your statement, "Graduate programs in city and regional planning are now replacing the older and vanishing curriculum of landscape architecture. Only a few schools today retain their graduate schools . . ." does not coincide with the information I obtained a few months ago, I wonder if you can forward us some supplementary information which will be helpful in our study? I am enclosing a mimeographed sheet which is a summary of the information I received relative to graduate training. I do not recall that any schools have recently dropped their graduate work in landscape architecture although the number of graduate schools is too small and although I realize the situation at Harvard. At the same time you will notice that the University of Georgia is planning to activate its graduate school this fall, and we anticipate starting ours the following year. Obviously some schools will be dropping or combining their landscape architecture curriculum with something else; in the meantime other schools are activating work. Like many other things this goes in cycles.

We have made tremendous strides here at Michigan State College since Harold Lautner came in as head of the Department of Landscape Architecture and Urban Planning about seven years ago. Our staff now totals ten persons including a registered architect. We have the

(Continued on page 152)

Birmingham boasts the best in gym floors!

This spacious gymnasium in the fine new Birmingham High School has IRONBOUND CONTINUOUS STRIP Northern Hard Maple Flooring $33/32$" thick, set in mastic over cork. Installation by Whitcomb Bauer Flooring, Inc., Detroit, Mich., authorized Robbins Ironbound distributors and installers. Architects: Swanson & Associates, Bloomfield Hills, Mich.

ROBBINS *Ironbound** **CONTINUOUS STRIP* MAPLE**

Architects, school administrators, coaches and players alike know what a *difference* flooring makes. That's why IRONBOUND CONTINUOUS STRIP MAPLE flooring was chosen for the gymnasium in the handsome new Birmingham High School. A layer of mastic over cement, a layer of cork, and another layer of mastic topped by rugged Northern Hard Maple assures *controlled* resiliency for fast, lively action. And driven into the end of each row is a saw-toothed steel spline to keep the floor locked in place. You just can't buy a better gymnasium floor *anywhere*—and yet *it costs no more than an ordinary floor.* Write Dept. P. for the name of your nearest contractor.

*T. M. Reg. U. S. Pat. Off.

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CBM...Your Shield of Protection in Fluorescent Lighting

Q. What do the initals "CBM" stand for?

A. "CBM" stands for CERTIFIED BALLAST MANUFACTURERS. Nine of the country's leading manufacturers of fluorescent ballasts comprise the CBM group.

Q. What does "CERTIFIED" mean?

A. It means that ballasts carrying this diamond-shaped shield have been built to rigid specifications designated by CERTIFIED BALLAST MANUFACTURERS. It means that Electrical Testing Laboratories, Inc., has periodically tested these ballasts and found they meet or exceed the exact specifications designated by CBM.

Q. What's the need for specifications?

A. Ballasts are the heart of fluorescent lighting. CBM specifications make certain the ballasts provide best possible performance for the lamps they operate.

Q. How do CERTIFIED BALLASTS benefit you?

A. When fluorescent lamps do not perform in accordance with published ratings, low quality or improperly designed ballasts may be the cause. However, most lamp manufacturers waive this possibility if the ballasts involved are CERTIFIED.

The CBM Shield is their assurance that the ballast is delivering proper electrical values to their fluorescent lamps.

CBM specifications protect the public interest because they provide:

FULL LAMP LIFE **RATED LIGHT OUTPUT**
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QUIET, TROUBLE-FREE OPERATION

Write for complete information on the types of CERTIFIED CBM BALLASTS available from each participating manufacturer.
Participation in the CERTIFIED CBM BALLAST program is open to any manufacturer who complies with the requirements of CERTIFIED BALLAST MANUFACTURERS.

CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

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out of school

(Continued from page 150)

largest enrollment of any landscape school in the country, have recently been accredited by the American Society of Landscape Architects, have graduated 133 landscape architects since January 1, 1946, and are having at least twice as many outright requests for our graduates as we are able to fill. We have developed a well co-ordinated curriculum at the professional level which I am enclosing along with one or two other mimeographed sheets. We have been studying our proposed graduate curriculum very carefully because we do not wish to offer it before we are assured of a very worthwhile program.

I have enjoyed your articles very much and hope that you will be able to give us some supplementary information on the schools of landscape architecture.

D. NEWTON GLICK

Professor Glick's letter is most encouraging and is certainly indicative of the fine spirit which we know prevails at Lansing. My own loyalties to the field and sincere belief that it is being neglected by the architectural schools impel me to elaborate on my original statement which elicited Professor Glick's letter, and also to raise some further questions.

Perhaps the landscape educators' conference held last month and mentioned in Professor Glick's letter will have answered the questions I raise. If so, I hope to have the opportunity of publishing them here. Also I hope that the scrutiny of the Landscape Schools will be as thorough as that now taking place in the Architectural and Planning Schools. The facts and figures as to enrollment and teaching staff while important in all three professions are still not as important as the basic career opportunities and the shifts which may be taking place within the professions themselves.

Back in 1925 when I graduated from secondary school in Cleveland I wanted to study city planning—why I don't know, but it was a basic interest with me. I was told that I should plan to go to Harvard and study in the Graduate School there under the Hubbards, John Nolen, Senior, and others. To get into the Graduate School of Landscape Architecture at Harvard necessitated an undergraduate training in Landscape Architecture or Architecture, and I was informed that the University of Pennsylvania was the best bet. In those days there were still the great emigrant Scotch gardeners and our studies included field trips to the many fabulous gardens of the Main Line around Philadelphia. Even as beginners our thinking was directed to the great gardens of the past and present—to the Villa d'Este at Tivoli and the Villa Lante at Viterbo. Later I was fortunate enough to be able to visit many of the French, English and Italian gardens of my early training and always have felt enriched by the experience.

In those days before the Great Depression it never occurred to any of us that the landscape architect would ever have other than the job of the great estates and their formal or informal gardens. Great pride of the profession lay in the expanded ideas of the Olmsteads and we paid particular attention to the Chicago

(Continued on page 154)

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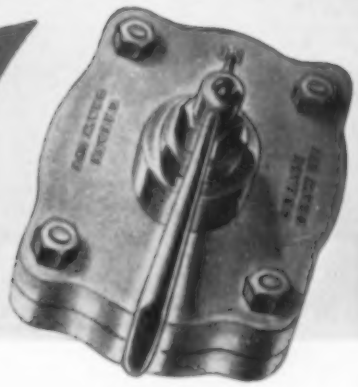

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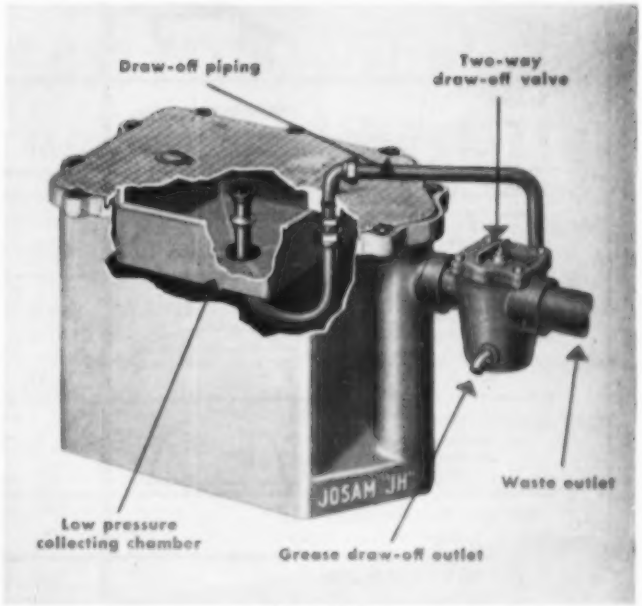

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out of school

(Continued from page 152)

parks of that firm, which in our minds brought the great gardens of Europe to the American public via the local park systems. We were also made aware of John Nolen's designs for several subdivisions and one little suburban new-town, Mariemont, Ohio. But our little department, and it was very small, concentrated on the development of gentlemen landscape architects for the Fine Art of Landscape Architecture.

Why the Department of Landscape Architecture at the University of Pennsylvania finally closed I do not know. I had changed over to what to me then seemed the wider field of architecture, and although both curricula were housed in the same building and were under the same Dean, they followed the still accepted procedure of many schools today and had nothing to do with each other.

Professor Glick's figures in the survey which came with his letter indicate that his school along with that of Illinois top the list in faculty size, 10 and 9 respectively, while the University of Massachusetts and the College of Forestry of the State University of New York have six each on the landscape staff. California (Berkeley) has five. We do not seem to have figures on enrollment, but the Dean's questionnaire, Question Seven, of the A.I.A. Commission for the Survey of Education and Registration, "a report discussed in anticipation many times," mentions an average of 21 student candidates in the five undergraduate or First Degree schools including Florida, University of Michigan, Ohio State, North Carolina, and the University of Southern California. First Degree students expected to graduate at the time of the survey were approximately seven from each school, with less than three expected to graduate at the Graduate or Second Degree Level from the three Graduate Schools reported —Harvard, University of Michigan, and Cornell. While I cannot place much faith in the very meager findings of this part of the Commission's Survey, we are apparently working with very small figures. Professor Glick also gives a list of universities where graduate landscape degrees are now available. Leaving Harvard out because of its indeterminate status as of the time of writing, there are six schools granting such a degree in one year, with two more schools anticipating the granting of such a degree.

There are a total of 73 teachers on the Landscape staffs of all the schools teaching the subject, of which only 28 are members of the American Society of Landscape Architects, and only 25 have master's degrees in Landscape Architecture. My guess (and this is not based on more than a guess) is that we are graduating today about 120 students all told, combining in this total the first and second degrees.

I lived in Denver eight years. I knew of only four practicing landscape architects in that city of about 400,000 from 1942 to 1950. In fact they seemed to do

(Continued on page 156)

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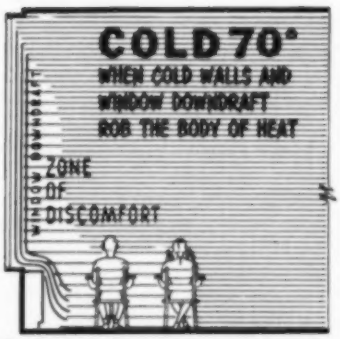

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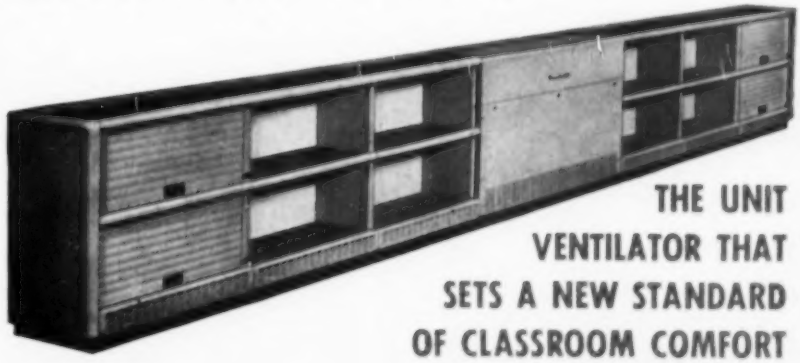

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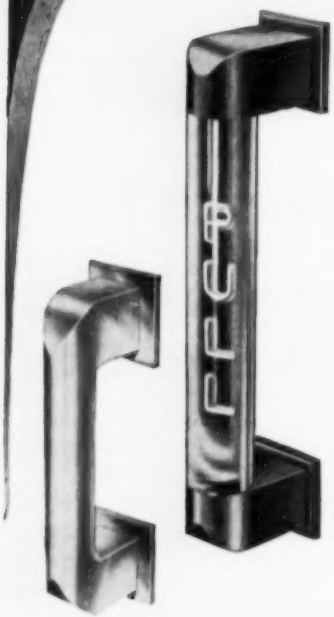

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out of school

(Continued from page 154)

what work there was to do for most of the state. Sometimes they eked out their garden and park work with zoning and subdivision jobs. At the time one of them retired in 1949 he was replaced by a specialist in subdivision work. The fact is that the nurseries seemed to have taken over the private and some of the public garden work. Fine, capable, and well liked as these few landscape architects were, they were not used to the fullest extent possible. What the situation is there today I do not know. Professor Glick's letter indicates a demand for graduates. I hope he will tell us from what sources the demands come

The Landscape Architect is a badly needed technician in the newly developed sciences and arts of environment. I am speaking here of the open planning which the contemporary house, school, large scale housing project, and other architecture, including the superhighway, demand. If we are to take climatology seriously, and I hope we are, the land planning and plant material specialist is a required expert. If we are to open up our cities, reduce building coverages and densities—that is a big "if," unfortunately—the landscaping of our open spaces, the amenities of the volume of the interstices between buildings, the vistas, the play spaces, the gardens, the parking areas, and all of the land uses of the level areas, hills, and terraces created, need the touch of experts and specialists. Few architects have had the training time to encompass the knowledge and skills required. The fact may also be that so few landscape architects have been called in to meet present-day needs that they too may need a retreading. Certainly all too few large-scale projects, housing, hospitals, colleges and universities, civic centers, urban redevelopment proposals, and all the rest, show much real sensitivity to the design of open areas, irrespective of the quality of individual buildings.

The figures cited above are pathetic. In a country so vast, populated by so many people housed in such ugly cities and suburbs, the fact that we graduate the few landscape architects we do indicates

(Continued on page 158)

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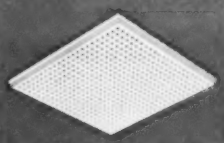

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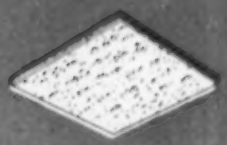

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out of school

(Continued from page 156)

both an unawareness of the need and a lack of knowledge of the kind and source of technicians who might be used to solve the problems of space and land planning and planting.

The strength from the earth (the Antaeus legend) as far as modern science in physical and mental health is concerned, is thoroughly vindicated, not as legend but as fact. We have always prided ourselves as being out-of-doors people and we are, even when we get our fresh air through the open windows of our automobiles. The open plan of our architecture today can make good sense if we can find all the experts to guide us in the use of the new materials and factors which the open plan adds to our design. The average middle income American, unlike the Englishman or German, is not by predilection a gardener. This is a dangerous generalization, but the evidence by actual comparison is convincing. This means that if open planning is to create the environment intended, there is a double cultural lag to be made up, one in the habits of our people and the other in the training of the land planners.

There is dangerous ideological ground here that I fear to tread—the distinction between the landscape land planner and the city planning land planner. The fact seems to be, and I'm stepping lightly, that the major differences lie in the scale of things and a slight emphasis on the horticultural in the landscape field. No one challenges the landscape architect's role in the single house field, but once you begin plans for more than one, the site planner may be either the architect or the city planner. In the layout of parks and playgrounds the city planner designer will be involved in as many aspects as the other land planning designer with the horticultural bent. In subdivision work I find no distinction. Whatever the name of the professional, his training must cover the subject. In large scale housing, in redevelopment site planning, I frankly don't know where one of the professions begins and the others leave off, or for that matter where they should. As for

(Continued on page 163)

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BEAUTIFUL AMERICAN-STANDARD FIXTURES add glamour to this practical bathroom. Notice the trim lines of the matching fixtures. This harmonizing group includes twin New Companion lavatories, a New Compact toilet and a Master Pembroke bath. American-Standard plumbing fixtures are available in white and a variety of colors.

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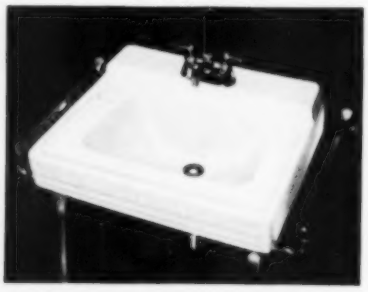

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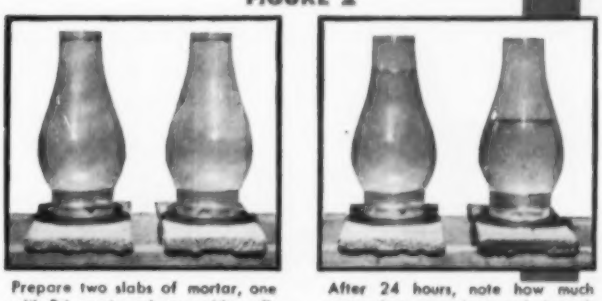
To compare the durability of Brixment with that of any non-waterproofed mortar, make a cylinder or block of each, let both cure for a month or so, then freeze and thaw them about 15 times in your deep-freeze or refrigerator, with a little water in the pan.

After a number of freezings and thawings, you will note that the cylinder of Brixment mortar (at left, in both the before and after photographs above) retains its original condition, while the cylinder of non-waterproofed materials has badly crumbled and scaled.

FIGURE 2



Prepare two slabs of mortar, one with Brixment and one with ordinary cement-and-lime mortar. After mortars have hardened, seal a lamp chimney to each of the mortar slabs, using wax or candle grease, and fill with water.

After 24 hours, note how much water has gone into and through the non-waterproofed mortar, and how little water has gone into or through the Brixment mortar.

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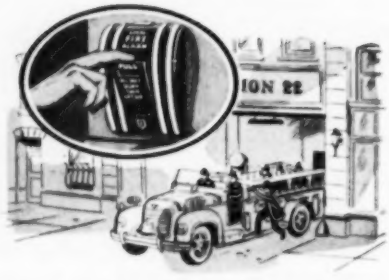

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out of school

(Continued from page 158)

regional planning and large scale recreational planning such as state and national parks? *Who* knows?

Any specialty in the field of comprehensive architecture is easy to define at its center but is impossible to carve out in one piece. A few years ago it would have been ridiculous to say that an interior decorator or designer should have training in landscape architecture or vice versa, but today I'm not so sure. So here we are back at the old problems of degrees with prerequisites and credits and course hours which limit the freedom of our trainees to range from the design of an outdoor living room to a river valley. The scale of enterprise should never set the limits of careers. No architect should be restricted to one building at a time and certainly no architect should be so limited in his training that he says to himself, "This project or development or city is too large for me to encompass in one design." Daniel Burnham, that old "landscape architect," never seemed to worry about big architectural plans.

There is no city planning office in the country that does not need land planning designers on the staff, whatever their professional label. Further, they need land planning designers who work in four dimensions. Our country badly needs people (and check the jobs going begging right now in the roster kept by the American Society of Planning Officials) who can design in the dimensions of space and time for people, place, and climate. By any name they smell as sweet to the harassed public official as long as they can do the job.

My one and most serious fear is the ideological one—the label. Somewhere, in some broad gage university, can't we drop the label problem just long enough to define the comprehensive range within which we all must work? We must be able to move up and down the scale of things as each of us moves through our own career years.

But whatever we define as the career opportunities of the architect, the land and city and regional planner, I join with Candide at the end of the story with, "C'est bien dit, mais il faut cultiver notre jardin."

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Simplified Drafting Practice. A modern approach to industrial drafting. W. L. Healy and A. H. Rau. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1953. 156 pp., illus., $5

Ideas for Bookcases & Bookshelves. A Sunset Book, Lane Publishing Co., Menlo Park, Calif., 1952, 80 pp., illus. $1

Utopia Ltd. Harold Orlans. Yale University Press, New Haven, Conn., 1953. 313 pp., $4.50

Specifications. H. Griffith Edwards. D. Van Nostrand Co., Inc., 250 Fourth Ave., New York 3, N. Y., 1953. 311 pp., illus., $5

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for the busy architect

Streamlined Specification Standards: Vol. I, Architectural. *Ben John Small. Reinhold Publishing Corp., 330 W. 42 St., New York 36, N.Y., 1952. $20*

Every once in a while, an architect will take time out from the demands of his practice—and his duty to his family—to publicize one of his own procedures, which he believes will be of benefit to his profession. He might well have saved himself a great deal of time and effort by keeping his special efficiency methods under his hat, but most architects are thataway. This reviewer once thought he had made such a gesture when he presented the basic "Streamlined Specifications" system and the copyright to the profession through the Institute,* but that gesture fades into utter insignificance beside the contribution of Ben John Small who has expanded and developed the system into a 3-inch, 3-pad *Streamlined Specification Standards* with a soup-to-nuts detailed elaboration of the system which his office has found time-saving and effective.

This is not merely a treatise—it's a work-sheet—which a busy architect may skim through, checking items for transcription by his secretary with the relaxed feeling that comes from knowing that he hasn't overlooked alternatives. Of course, there is no completely predigested specification, which can be launched merely by pressing buttons. And only a prequalified mind can play the instrument, but where time is of the essence, this system is a time saver and its cost is of no consequence compared to any man-hour rating. Especially helpful are standardized abbreviations, references by trade names and manufacturers' specifications, and by Federal Specifications, as well as by descriptions. It's a well-balanced setup, concise but complete with detail where detail is needed. Supplementary inserts of an informative nature, such as "notes to job captains" and "notes for inspection pur-

* Streamlined Specifications, by *Horace W. Peaslee, F.A.I.A. Copyright 1939—presented to the A.I.A. A.I.A. Circular 1947:* Brief for a Briefer Specification.

(Continued on page 166)

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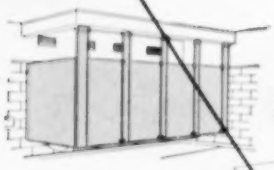
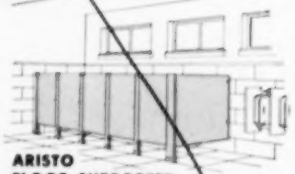


ARISTO CEILING HUNG



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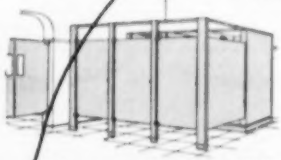

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reviews

(Continued from page 164)

poses" are by-products of value. Almost every contingency or alternative is anticipated and the architect is called upon merely to exercise his good judgment for selection—and his blue pencil for rejection. A set will pay for itself on each job, in time-saving for the typist alone—even if the Boss' time has no fixed value.

The essence of the system is the use of a *single sweeping mandatory clause* which makes unnecessary any repetition of the "Contractor shall" do this and that. It also makes possible the "*listing*" of operations and methods with or *without sentence structure*—just as hardware and plumbing lists are normally covered—a method cleared with legal counsel as to its validity. The system is subject to various interpretation and in this instance sentence structure has been used where easier to employ than to avoid. Nevertheless and notwithstanding, in his use of the work pads received for review, the "inventor" will bluepencil many verbs which the "developer" has preserved. Others might prefer to add more of them. The system is elastic.

It is noted that the prospectus lists these Standards as *Volume one: Architectural.* It is to be assumed that *Engineering* is in preparation, and it is to be hoped that the response to Ben John's offering will encourage him to reveal more of the producing methods of a long established and highly productive office.

HORACE W. PEASLEE

be it ever so humble

The Smaller English House, 1500-1939. *Reginald Turnor. B. T. Batsford, Ltd., London, England. Available from John de Graff, Inc., 64 W. 23d St., New York 10, N. Y., 1953. 216 pp., illus., $10*

This is a most attractive book that contributes to the history and development of domestic architecture in England. Everyone is relatively familiar with the famous large houses created for the wealthy class in a position to set the styles and standards. For the design and construction and embellishment of the

(Continued on page 168)

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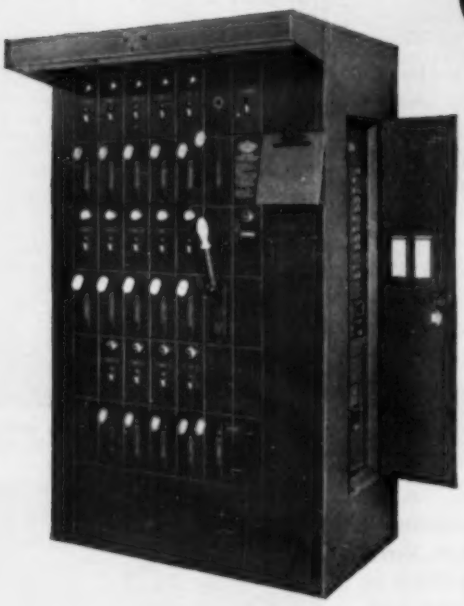

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ADAMS-RITE MANUFACTURING CO.
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reviews

(Continued from page 166)

great houses, the best architects and artists, both native and foreign, were available. The smaller houses, those belonging to the prosperous squires and yeomen, have never been given so significant a place in the English architectural scene as the more illustrious and stately houses, yet their influence on the trend of building is actually no less marked. It is with these houses that the author is concerned here.

Turnor, whose chief interests are literature and architecture, is well qualified to write upon so comprehensive a subject. After taking his degree at Oxford, he went to the Architectural Association School of Architecture and qualified as A.R.I.B.A. in 1933. It is obvious from the clarity of his presentation and the freshness of his viewpoint that he not only has a profound knowledge of English domestic architecture but also a genuine love of it. This book will thus appeal to the amateur as well as the professional, because it is entertaining and highly informative.

"The house," Turnor writes, "is for everyone the beginning of architecture, and for many people also the end. Much more than any other kind of building, it is associated in the human mind with ideas which have nothing to do with architecture; and yet, consciously or not, the nature of planning and elevating must be a part of the idea expressed in the word 'home'." The houses (and, of course, they were the homes of the prosperous middle class that the author is examining) cover domestic building during the past five centuries, from the timber-framed buildings, such as Ockwells Manor, Bray, Berkshire (c. 1465) and Paycocks, Essex (early 16th Century) to the modern concrete-and-steel houses of Maxwell Fry, Gropius, Yorke, Chitty, the Tecton Group, and other architects who were practicing just before World War II. Thus the reader is able to scan the panorama of private dwellings on the smaller scale, from the days when defensive requirements of the Middle Ages became no longer necessary in houses to the "machines for living" of today.

(Continued on page 170)

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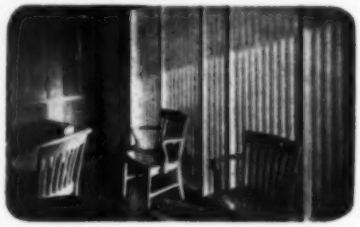

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reviews

(Continued from page 168)

In his approach, rather than tracing chronologically the evolution of architectural styles and tastes, the author has brought together a wide range of houses and developed his story around them. He describes the various characteristics of the middle-class houses and traces the evolution of them through four phases of influence — craftsmanship, art, scholarship, and (contemporary) science. Before the Renaissance, the dwelling house in England was a traditional structure usually designed by an unknown architect. After the Renaissance, an intellectual appreciation of architecture developed, due to Dutch and Flemish influences. Later, as the author convincingly shows, came a period of transition when building was regarded as an art, a period when houses were designed by leading architects. It was then that the Classical influence, best expressed by the Queen's House at Greenwich, by Inigo Jones, made itself felt in England. Not too many of the smaller houses are known to be the creations of architects of the Palladian Period or the Age of Wren, but with the advent of the Georgian Period and the increasing fortunes of the middle class, as Turnor points out, architects of distinction also were responsible for smaller town and country houses.

Not the least enlightening and entertaining chapters of the book are those in which the author deals with the Regency Period in which the Classical movement was expressed in a Greek Revival that dictated so many of the villas and terraces, in so many places. From those days he shows the "declining curve of taste" when, according to his views, architecture took a "wrong turn," through the Victorian and subsequent 19th Century eras—culminating in the modern movement of the first part of this century. He does not feel that the aims of architecture, as applied to the smaller houses, should be merely engineering. On the other hand, he states, and probably there are many practitioners who will agree, that "architecture is at least half an art; that it is something capable of giving pleasure and exaltation even to those people who have no knowledge of its

construction or the sociological program which it is intended to fit. . ."

Aside from the author's sound views and the engrossing story he tells of the evolution of the smaller English houses, this book is important and should find a wide appeal for its illustrations. There are nearly two hundred splendid photographs, drawings and plans which constitute a remarkable visual history of the development of the houses in which Englishmen have lived in the past—and in which they are still living.

FRANK A. WRENSCH

vigorous renewal

The New Art Education. *Ralph M. Pearson. Harper & Brothers, 49 E. 33 St., New York 16, N. Y., 1953. 272 pp., illus., $5*

This influential argument for an art education which recognizes the natural origin of design in the personality of the student has survived the passage of time without the embarrassment which attends republication of volumes entitled "new." A number of illustrations have been added and the new final chapter, "Ten Years Later," shows the author as vigorous and discriminating in his anlysis of the contemporary scene as he was before his viewpoint (and John Dewey's) had won wide approval.

Although this book is primarily directed to art teachers and students, readers who have been confused by the current public controversy over "progressive education" will find Ralph Pearson's theories on modern art education easy to follow, clearly and directly stated, and illustrated point by point with reproductions of the students' work.

HEATH LICKLIDER

qualities of buildings

The Architecture of Baltimore, a Pictorial History. *Richard Hubbard Howland and Eleanor Patterson Spencer, edited by Wilbur H. Hunter, Jr. The Johns Hopkins Press (for The Peale Museum), Baltimore 18, Md., 1953. 149 pp., 104 illus., $7.50*

This superb document on the architectural development of one of America's most delightful historic cities is more than a collection of excellent representations of interesting buildings; for its text, though brief, is a remarkably perceptive

(Continued on page 172)

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Beyond the fact that Q-Floor offers the greatest electrical availability of any structural floor in existence (as indicated on the page opposite), there are several other decisive reasons why it has become a part of the finest new buildings in America.

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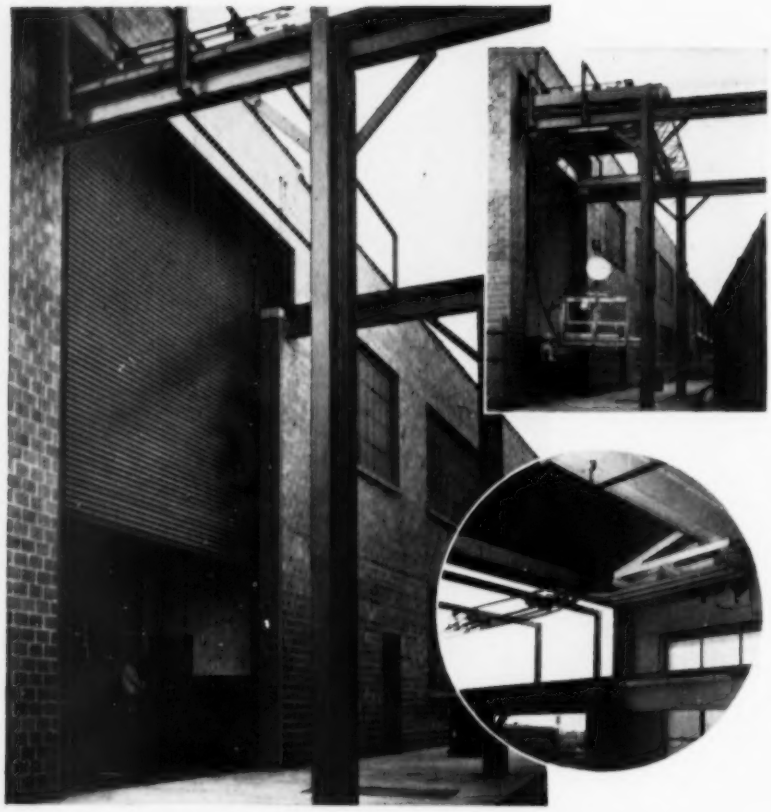

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Saving Ways in Doorways

reviews

(Continued from page 171)

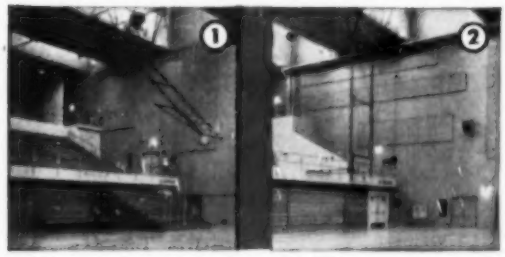
account of the city's building history. It also serves as a brilliant introduction not only to such acknowledged masterpieces as Latrobe's *Roman Catholic Cathedral* but also to scores of less-known structures, many (alas!) now destroyed, such as Long's *Union Bank* and the masonry-vaulted *U. S. Appraisers' Stores*, completed in 1839 and demolished only twenty years ago. In addition, the text gives brief but interesting accounts of a remarkable group of local architects: Godefroi; the Longs, Sr. and Jr.; Small; Starkweather; and others—all names that cry out for continuing detailed study. Fortunately, several original architectural drawings are shown along with the photographs and engravings of executed buildings. To the architect these will be of special interest.

Henry-Russell Hitchcock's *Introduction* is a valuable essay in itself. His analysis of the particular architectural qualities that make Baltimore what it is is clear and perceptive, but even more important are his suggestions for preservation. The preservation of a few individual buildings, he feels, is not enough; "the retention of the general visual texture—so to say—of the city is equally important." And characteristically forward-looking is his grasp of the integral value of city planning in the creation of "a sympathetic sense of the urban organism as a whole."

A few minor comments may be added. The term "back building" noted as used after 1820 (page 15) was used by Latrobe—evidently it was a common term in Philadelphia at the time—as early as 1805. Baltimore is called the "only" walled city in 1750; was not St. Augustine still a walled city at that period? The influences behind the detail of the Baltimore houses of the 1840's are likely to have been more the books of Lafever than the precedents of Latrobe; but surely Latrobe's *School of Medicine* for the University of Pennsylvania, 1805, had a great influence on Long's *Baltimore Medical School*, 1812 (page 57), especially in the dome over the anatomical theater. And it might be pointed out that

(Continued on page 174)

● Upper right photo shows main floor and balcony seats open to accommodate capacity audience. Above photo shows seats closed to recover all available floor and balcony space for class use. The other side of gym is similarly equipped with Medart Seats. Here is convincing evidence that a gym built to seat thousands of spectators need be but slightly larger than one with no seating at all—a tremendous saving in cost!



(1) Medart Telescopic Gym Seats are easily opened or closed in a few minutes. Only Medart has the easy-operating "Floating Motion" principle.

(2) Here are Medart Seats closed in below-the-balcony recess. Note how much floor area can be recovered when seats are not required.

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Medart Seat sections, using a ***self-supporting*** steel understructure, will safely carry loads of 400 pounds per linear foot per row. Each seat board, foot board and riser is supported by ***4 vertical*** steel uprights that place the live load on the floor where it belongs. Automatic retracting rubber-cushioned rollers protect floors during opening and closing of seats.

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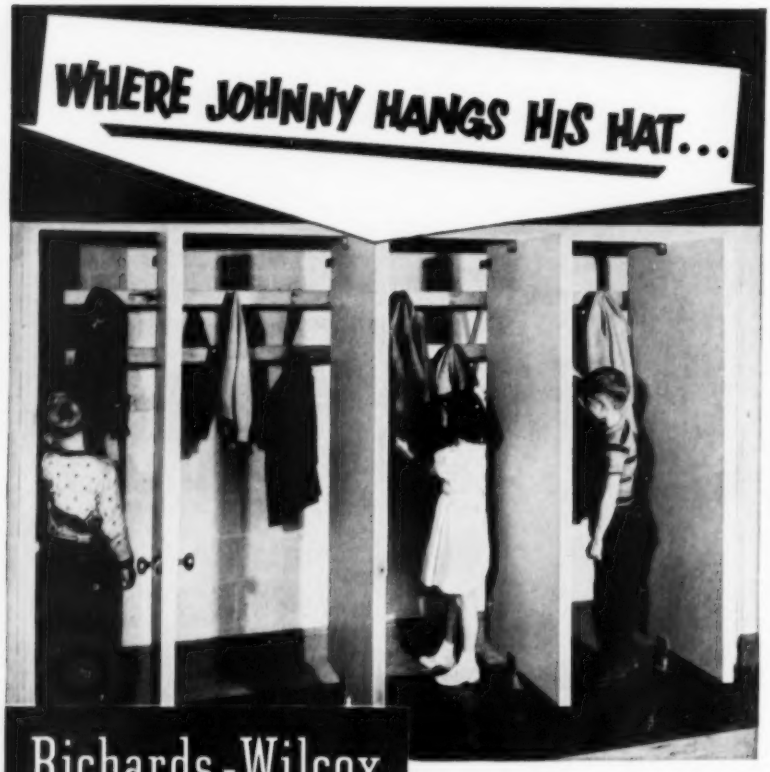

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reviews

(Continued from page 172)

the precedent for Long's *Union Bank*, with its strange corner columns and its unusual segmental gable arch, is to be found in a plate in one of the books of Sir John Soane.

All in all, this is a major contribution to architectural history, and a very beautiful book as well. The Peale Museum and the other oragnizations of civic-minded Baltimoreans who made it possible deserve our warm thanks.

TALBOT HAMLIN

100-year history

Danske Arkitekturströmninger 1850-1950. *Knud Millech. Edited by Kaj Fisker. Ostifternes Kreditforening, Copenhagen, Denmark, 1951. 365 pp., illus.*

The witty and urbane Kaj Fisker, the architect who has left more than a casual imprint on the fine planning and architecture of Denmark, has edited, and Knud Millech has written a scholarly, lavish, and indeed encyclopedic 100-year architectural history of their tiny country.

Denmark, one third the size of Alabama, has always been somewhat under the potent influences of its neighbors in all periods of its architecture, yet in following Millech-Fisker's extravagantly illustrated pages one can see that a constant Danish touch, a Scandinavian simplicity combined with a sophisticated elegance, appears through all work whether influenced by Schinkel or Le Corbusier.

Millech and Fisker have dug deeply and lovingly into a far too neglected and highly difficult period of architectural development. This is the only book I know of which is a thorough treatise of any country's architecture in the epochal 100-years just past. And thorough it is, with hundreds of photographs, drawings, plans, and details.

Although the modern practitioner will find little of practical value in its pages, only 44 of the 365 being on architecture since 1930, the pattern and scope of *Danske Arkitekturströmninger* are models for the architectural historian. That

(Continued on page 176)

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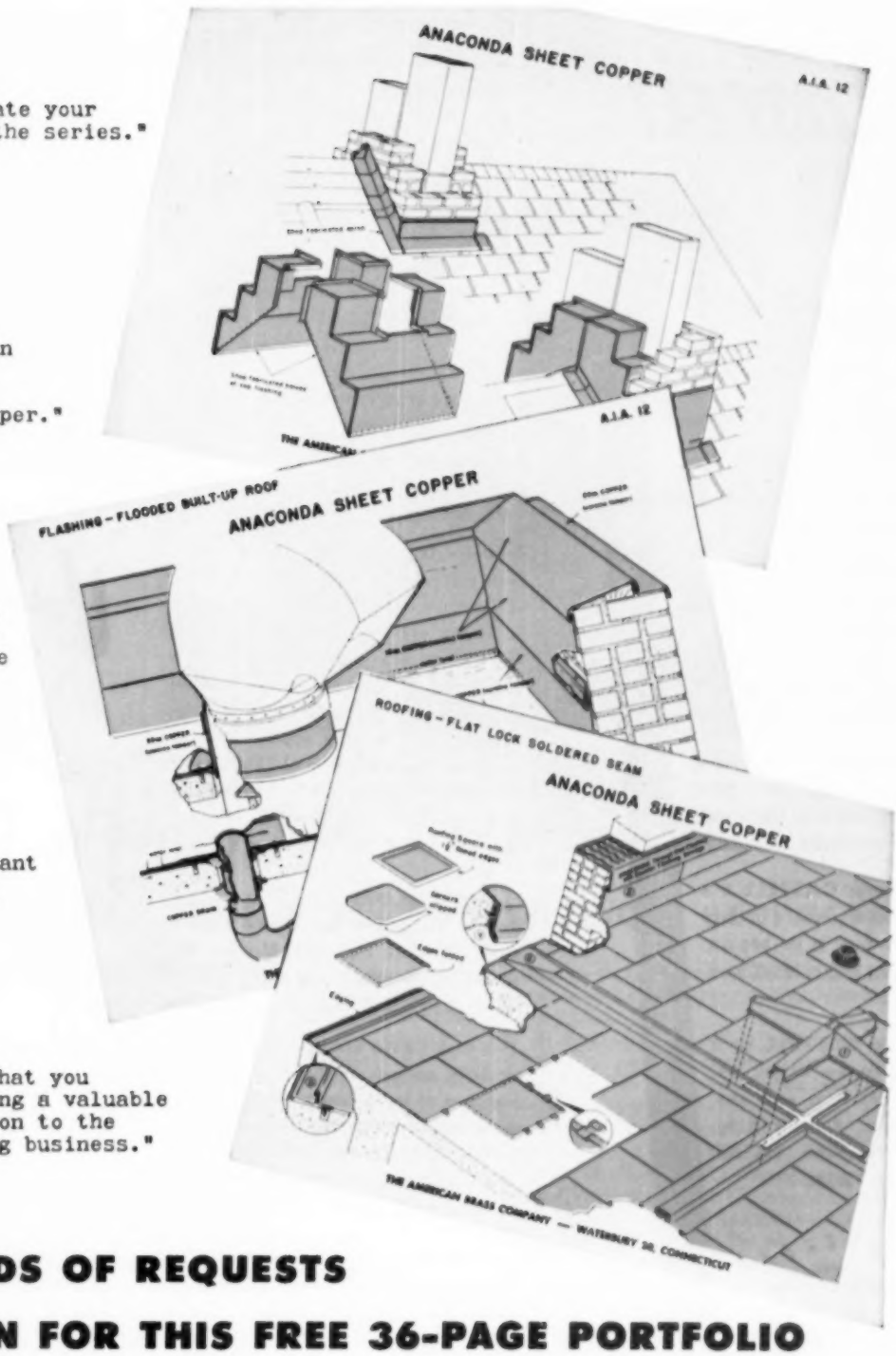

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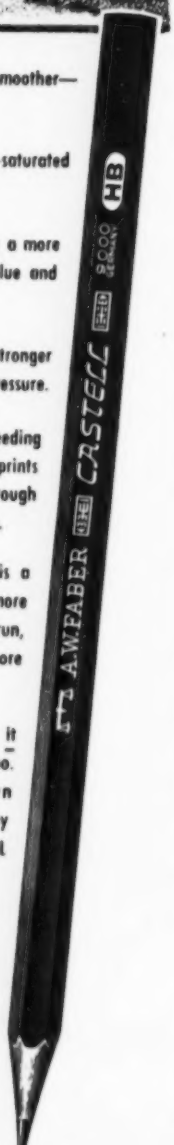

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reviews

(Continued from page 174)

it was underwritten by a credit institute celebrating its centennial, tends to emphasize the rather Philistine character of many of our own money lenders!

The text is in Danish (of which I can read just one score and seven words), supplemented by brief English summary.

G. E. KIDDER SMITH

no trend or movement

82 Distinctive Houses from Architectural Record. *F. W. Dodge Corp., 119 W. 40 St., New York 18, N. Y., 1952. 448 pp., illus., $8*

This book is a reprint of houses that have been published in the *Architectural Record* over the last five years. Editor Joseph B. Mason says in his introduction that "no attempt has been made to prove a 'trend' or a 'movement' in American home planning or design." Text and captions are just as they appeared in the magazine. Some 80 pages of "Time Saver Standards," dealing with residential subjects, also reprinted from the *Record*, conclude the book.

using power tools

Power Tools for the Home Craftsman. *Edwin G. Hamilton. McGraw Hill Book Co., Inc., 330 W. 42 St., New York 36, N. Y., 1953. 277 pp., illus., $4.95*

This book for the home craftsman is particularly apropos at this time with the high rate of home repairs being made by the average home owner. It covers in detail the various power tools, their accessories, and how to assemble them in a working group known as the home workshop.

It will also be particularly interesting to many of the architectural organizations whose drawings and plans are translated also into models for their clients. Hamilton very adequately and completely covers the various power tools and the operation of these tools by the so-called amateur or home craftsman. To the advanced wood-worker, it is unfortunate that Hamilton has taken the majority of his pictures from previous Delta Publications.

(Continued on page 186)

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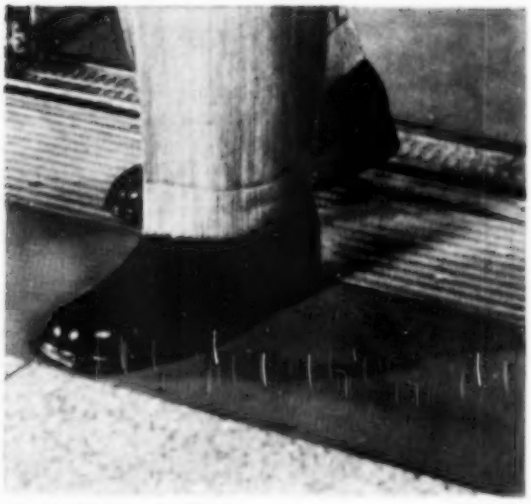

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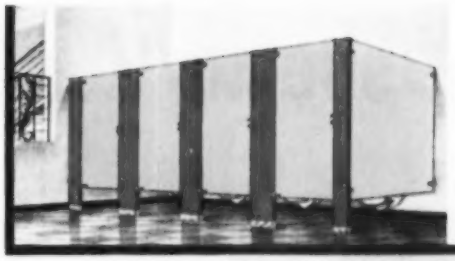

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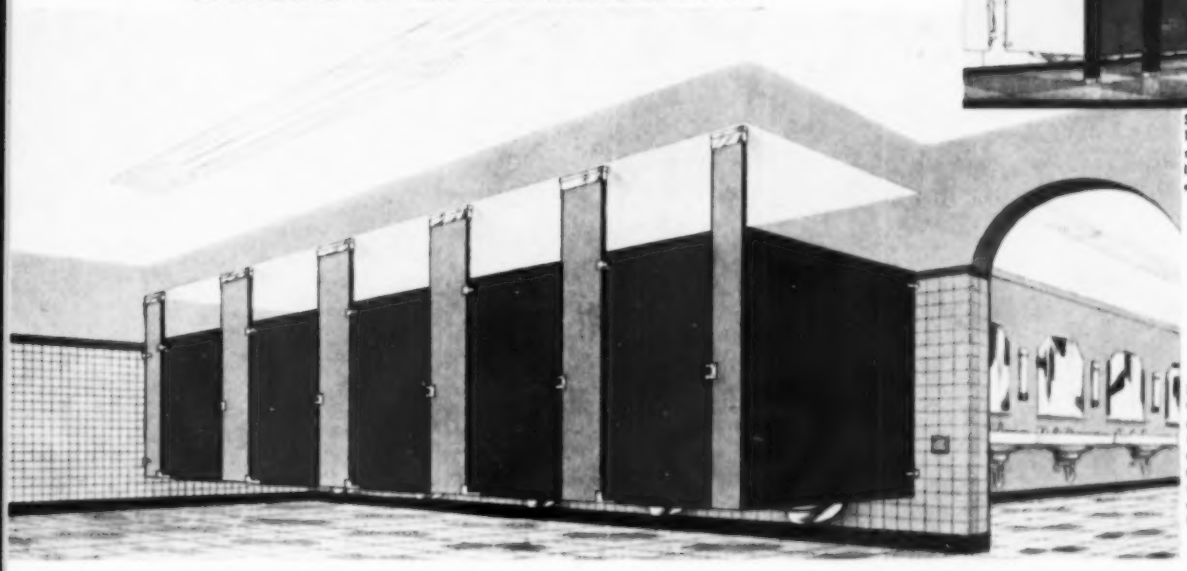

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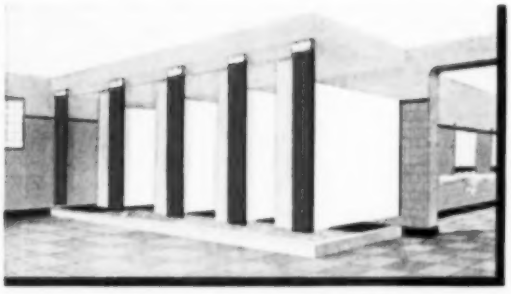

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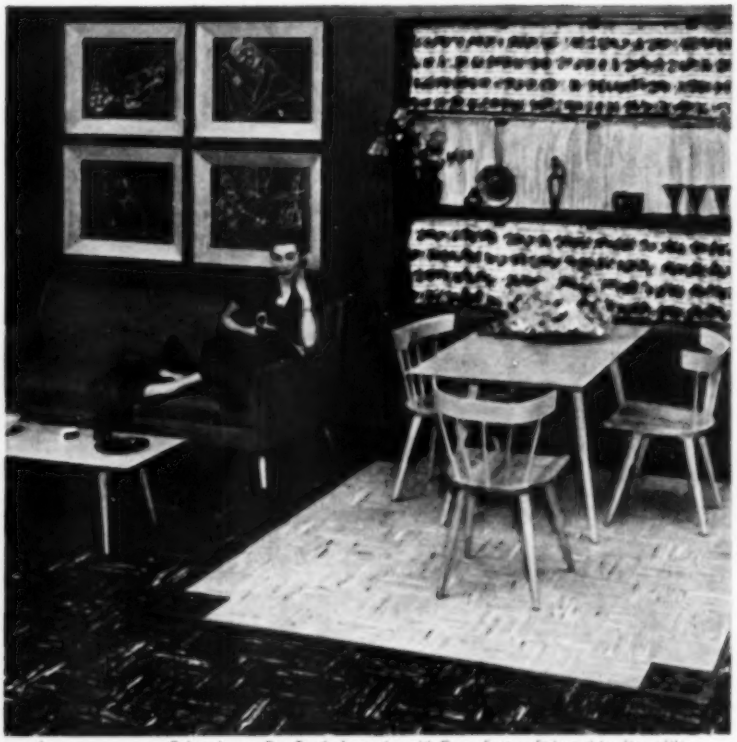

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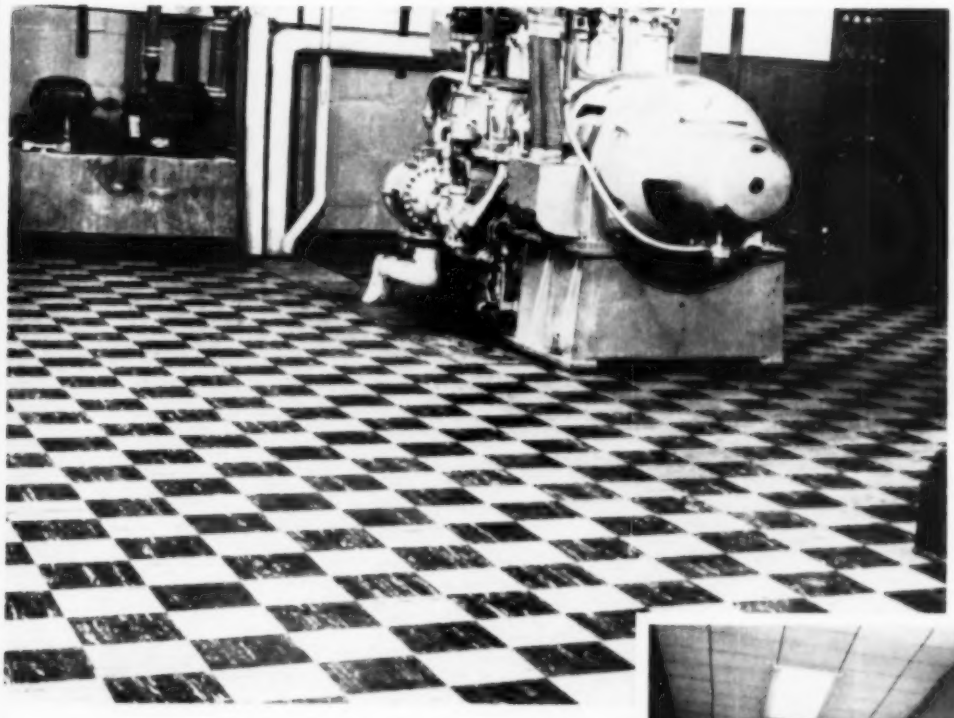

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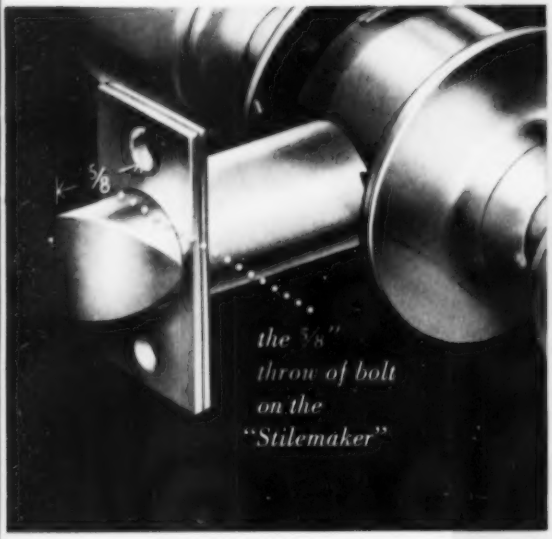

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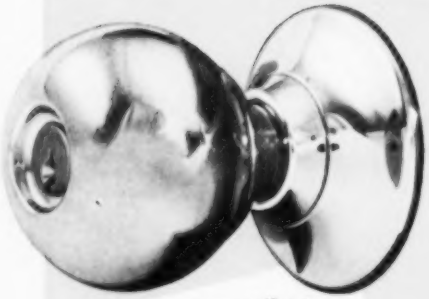

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"400" Closers | Overhead Door Holders | Miscellaneous Hardware | "Ten Strike" Cylinder Locks

reviews

(Continued from page 176)

However, not to detract from the value of the book to the novice, it must be said he does an admirable job covering details with splendid simplicity. BUZZ MACK

complete planning

Town Design. *Frederick Gibberd. The Architectural Press, 9-13 Queen Anne's Gate, SW1, London, England, 1953. 300 pp., illus., £3. 13s. 6d.*

Urging the co-ordination of architecture, landscape, and road design in planning the urban scene, the designer of a number of major urban schemes in England emphasizes town design as an art and social, scientific, and technical problems are discussed merely as a background to visual qualities. The town as a complete unit and also central areas, industry, and housing within the town are described; typical compositions of each are analysed, both for their own interest and as examples of some of the theories presented. Over 700 plans, diagrams, and photographs are included. B. L.

revised standards

American Standard Practice for Industrial Lighting. *Prepared by the Committee on Industrial Lighting, Illuminating Engineering Society. Publications Office, Illuminating Engineering Society, 1860 Broadway, New York 23, N. Y. 40 pp. illus. 50¢*

A complete revision of the first recommended practice on the problem of industrial lighting published in 1942, this new standard, which has been approved by the American Standards Assn., is presented in a 40-page booklet covering many specific lighting problems not included in the earlier report. Factors affecting industrial seeing tasks and the elements of good illumination required to perform those tasks are analysed and a wide variety of them are divided into specific manufacturing categories with tables giving required footcandles for each. Also explained and recommended are necessary quantities of illumination, qualities of light sources, distribution and diffusion and brightness ratios and reflectance values of surrounding areas. B. L.

notices

new practices, partnerships

NORMAN F. STAMBAUGH, A.I.A., announces a partnership with JULIAN C. JETT, A.I.A., under the firm name of STAMBAUGH & JETT, Architects, at office suite 604 Rhodes Bldg., 78 Marietta St., Atlanta, Ga.

WILLIAM A. CHALKLEY has joined the firm of COOPER & PERRY, 211 W. Hill Ave., Knoxville, Tenn. The new firm will be known as, COOPER, PERRY, & CHALKLEY, Architects-Engineers.

BENGT F. FRIBERG, Civil Engineer has entered practice as consulting engineer with office at 915 Olive St., St. Louis, Mo.

CHARLES SHUMSKY, R.A., announces the opening of his office for practice of architecture, at Suite 109, College Park Office Bldg., 7338 Baltimore Ave., College Park, Md.

FORREST R. WEST, Architect, announces opening of his office at 230 W. Washington Ave., South Bend 1, Ind.

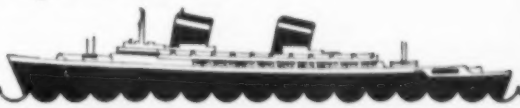
fifty years with New York firm

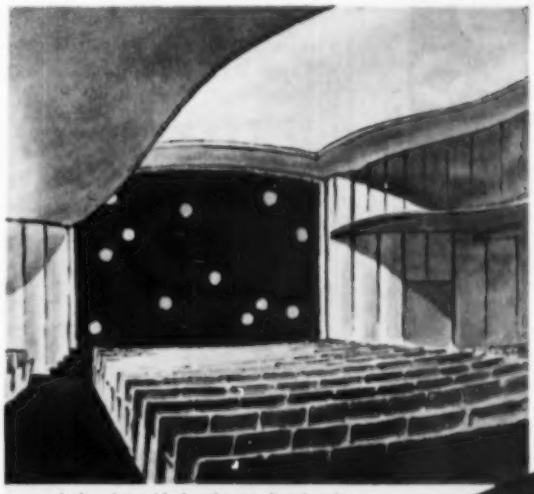
Voorhees *Weggenman*

ANDREW WEGGENMAN, Architect who has been with Voorhees, Walker, Foley & Smith, Architects-Engineers of New York, for 50 years, was guest of honor at a dinner given recently by the firm. STEPHEN F. VOORHEES, Senior Partner who has been with the firm for 51 years, was toastmaster. He recalled incidents of the half-century of practice and cited the architectural progress represented by an exhibition of notable buildings designed in the office through the 50 years.

(Continued on page 186)

On the world's safest, fastest super-liner . . .





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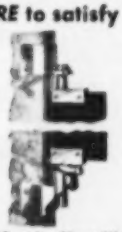

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notices

(Continued from page 185)

P/A Congratulates . . .

JOHN J. CALDWELL, promoted to Industrial Sales Manager of FIREYE CORPORATION, 720 Beacon St., Boston, Mass.

ARTHUR N. HILL, new Director of Advertising and Sales Promotion of Plumbing Ware Division of Briggs Manufacturing Company, 3001 Miller Ave., Detroit 11, Mich. Announcement was made by E. O. BRADY, General Manager.

ROBERT S. WYLIE, re-elected President of New York Chapter, The Producers' Council, Inc. Other officers elected at the annual business meeting: HERBERT F. PENDLETON, Vice-President; HARRY T. STARK, Secretary; FRANK F. GOOSMAN, Treasurer.

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photo by Lionel Freedman

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ARCHITECT WITH ACTIVE PRACTICE—established small office—lower Westchester County, N. Y. seeking associate living in same area who has a practice and office presently, or is desirous of establishing one. Must be able to design, prepare working drawings and supervise drafting room. Box 16, PROGRESSIVE ARCHITECTURE.

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ARCHITECTURAL-DESIGNER-DRAFTSMAN—20 years' experience, hospitals, schools, industrial, housing. Thoroughly seasoned. Work independently and direct work of others. Coordination and complete job administration. Clean, accurate and industrious. Columbia Degree, A.I.A. Married, one child. Desire responsible association small progressive office, preferably west. Box 18, PROGRESSIVE ARCHITECTURE.

ARCHITECT—registered Massachusetts 1950, Harvard 1948. Seven years varied experience. Thoroughly competent all phases architectral work—excellent draftsman. Making private European trip September 1955 or soonet. Desire to represent or work for American or European firm on European or African projects. Excellent references. Married, childless. Box 19, PROGRESSIVE ARCHITECTURE.

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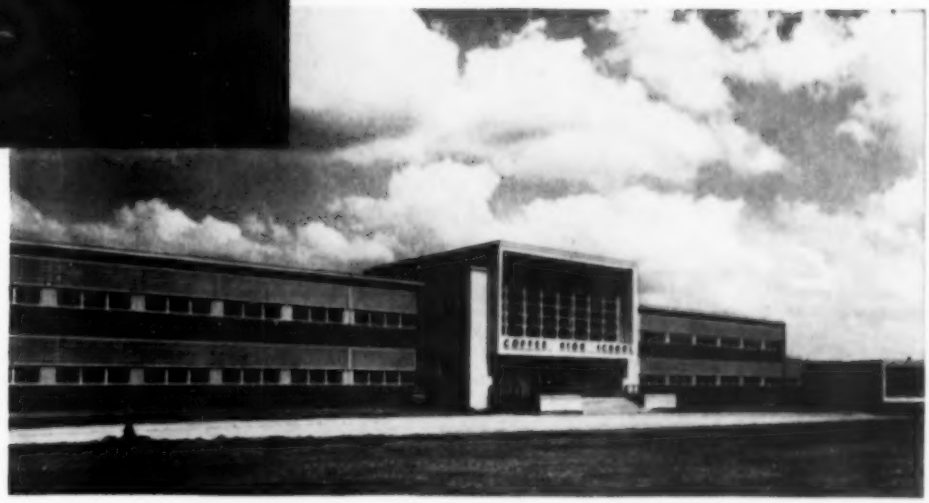

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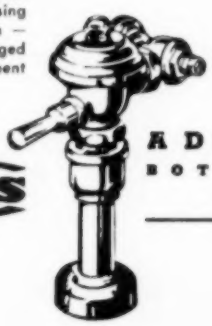

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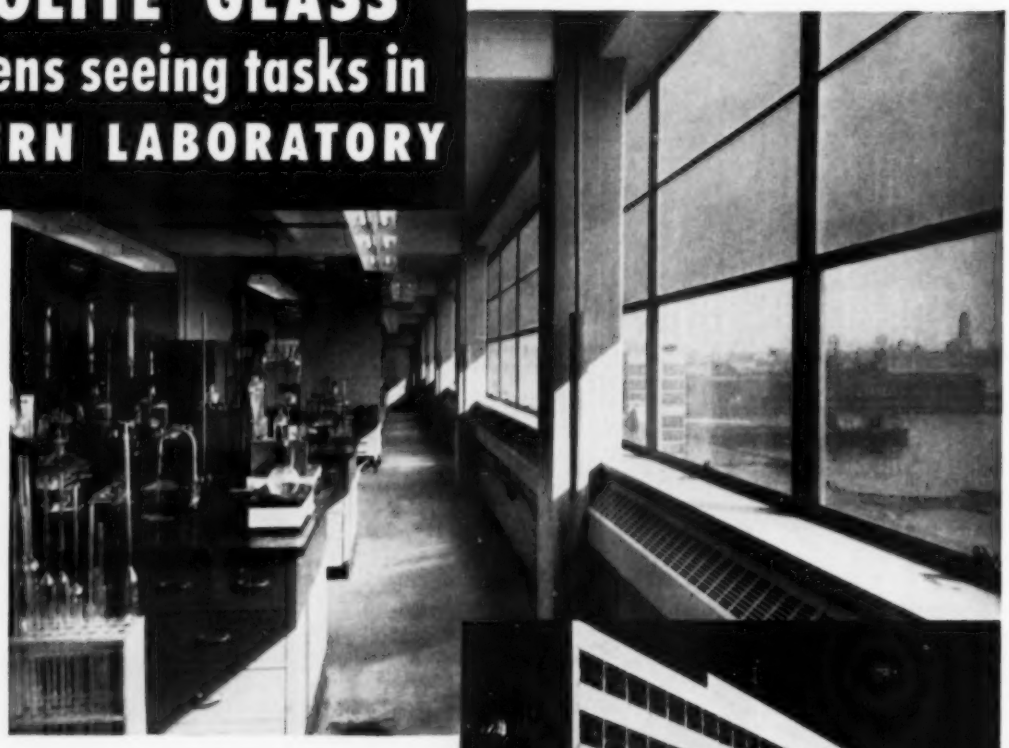
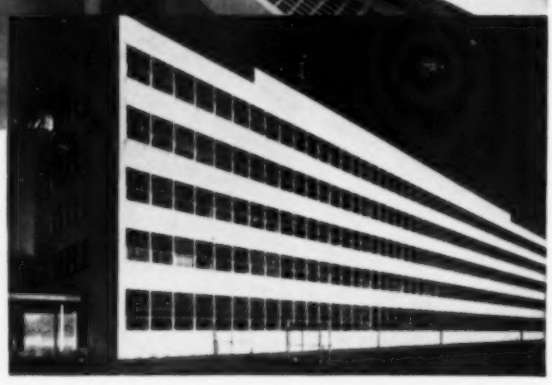


Installation of Coolite, Heat Absorbing and Glare Reducing Glass glazed in combination with clear vision strip.



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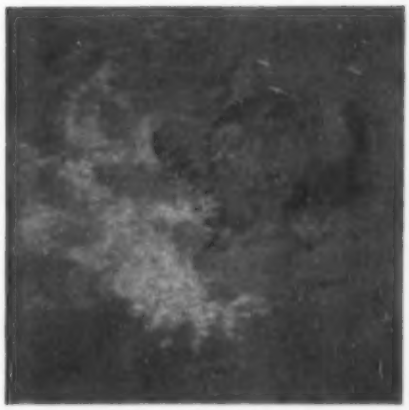

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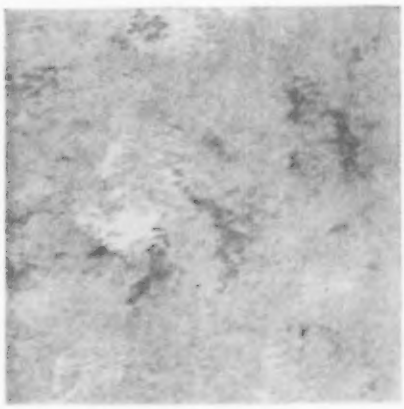

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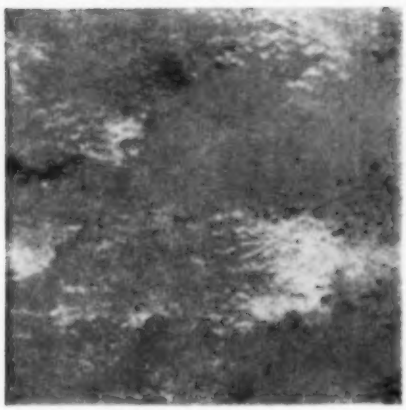
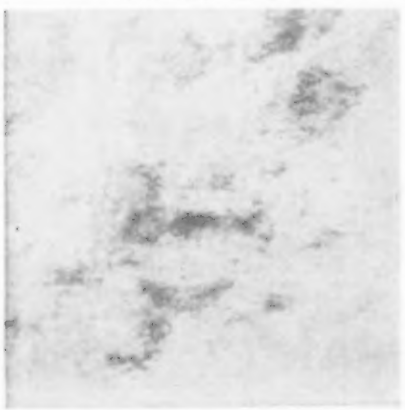


Slate Gray No. 751

Sirocco Taupe No. 757

Charcoal Black No. 752



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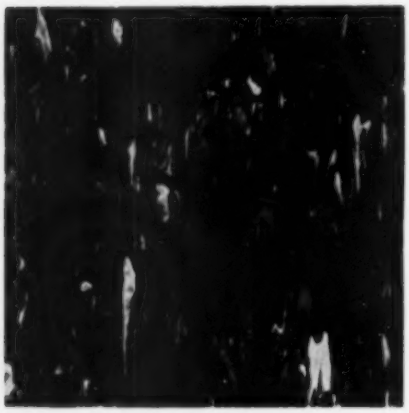
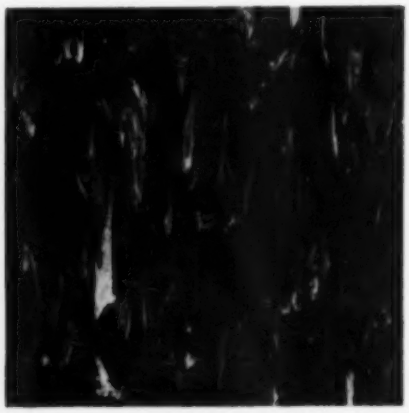


Imperial Black No. 462



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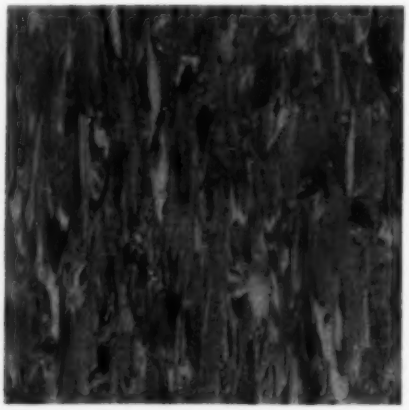

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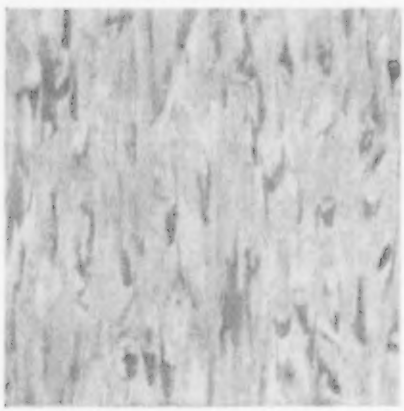
Opaline Green No. 464



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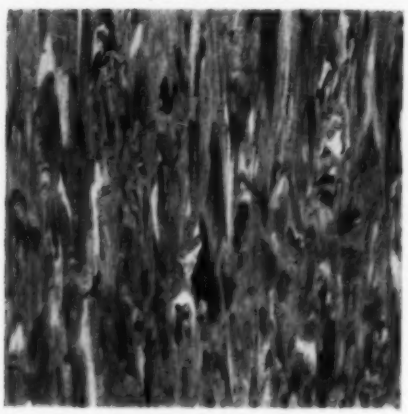
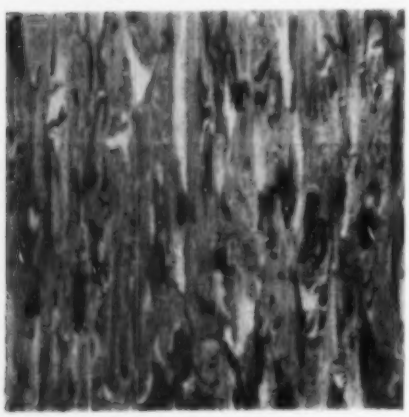


Copra Taupe No. 467



Trieste Gray No. 461

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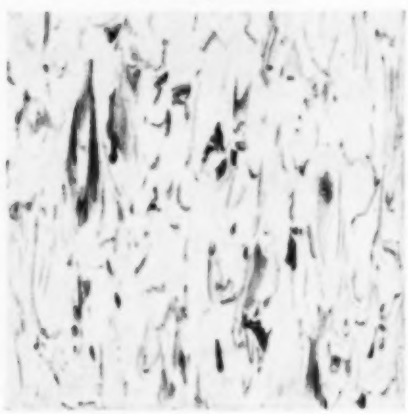

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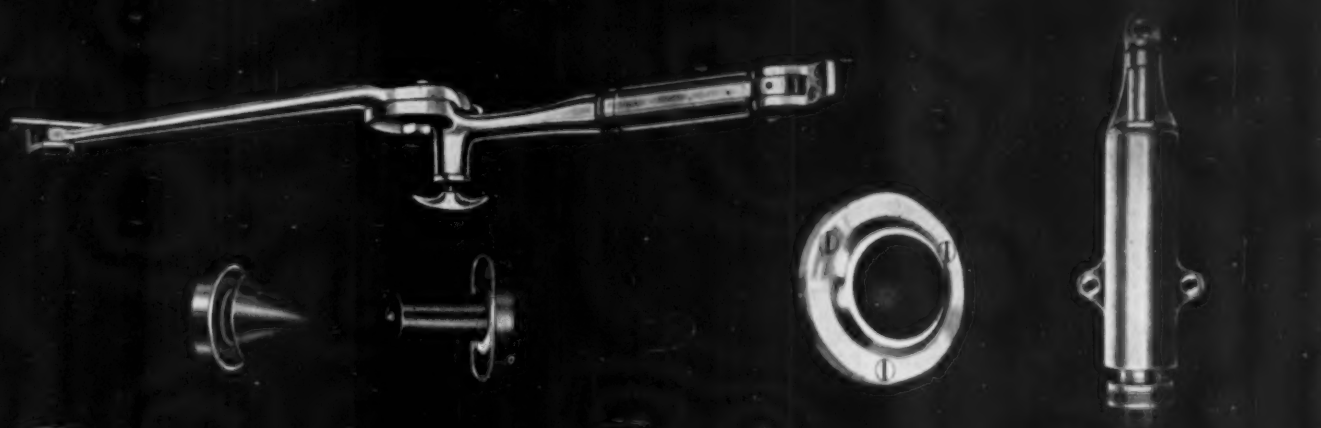

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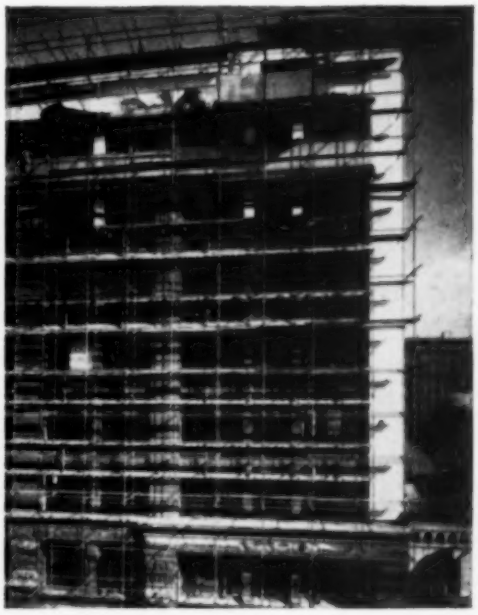
Marcel Boulicault, architect. St. Louis, Missouri
Travelers Insurance Company, owner.
Al-Bro Manufacturing Company, subcontractor for fabrication and erection of aluminum facing. St. Louis, Mo.

FACE LIFTING RESULTS IN 100% RENTAL OF 50 YEAR OLD BUILDING

An eight-story building over fifty years old, the Commercial Building was in bad repair and not even earning taxes when the Travelers Insurance Company became owner. Basic soundness of structure and desirable location were main points in favor of the rehabilitation.



First step in sheathing the building in aluminum was erection of pier covers (sheet) by means of a series of small extrusions riveted to a grid frame. Outstanding feature of new façade is use of aluminum extrusions for the spandrel areas. For the dual purpose of effect and erection space, spandrels were projected twelve inches beyond old building line by means of horizontal channels. Fluted design was used to increase stiffness and obtain interesting textural effect.

Fluted aluminum extrusions used for spandrels weigh less than three pounds per square foot, required minimum of new structural work. They were fabricated and erected by Al-Bro Manufacturing Company in sections 4" wide by 6' 3" high. Panels were chemically darkened before application of Alumilite finish for contrast with natural finish, double-hung windows.

The Commercial Building, Sixth and Olive Streets, St. Louis, Missouri, was only one quarter rented when the Travelers Insurance Company became owners. Over fifty years old, it was in bad repair and income was insufficient to pay taxes. Complete rehabilitation was indicated because the eight-story structure was basically sound and occupied a commercially desirable site.

The architect selected Alcoa Aluminum to sheathe the building from the second floor window sill line upward because it would require less new structural work than any other material, present a pleasing, modern appearance, require minimum maintenance. Al-Bro Manufacturing Company assisted in the design and development of the aluminum pier covers and spandrels which became the major components of the new façade.

The restoration proved successful in three ways. All space was rented on long-term leases to most desirable tenants. It caused similar projects to be initiated on neighboring structures. Property values increased dramatically as a result of the area redevelopment.

This project is one of many in which Alcoa has assisted architects and contractors. Alcoa engineers have had a hand in nearly every pioneering use of aluminum in the architectural field. They will be glad to work with you on your next design proposal, whether it be for new construction or modernization. For information on any aluminum architectural application call your local Alcoa sales office. Aluminum Company of America, 1890-G Alcoa Building, Pittsburgh 19, Pennsylvania.

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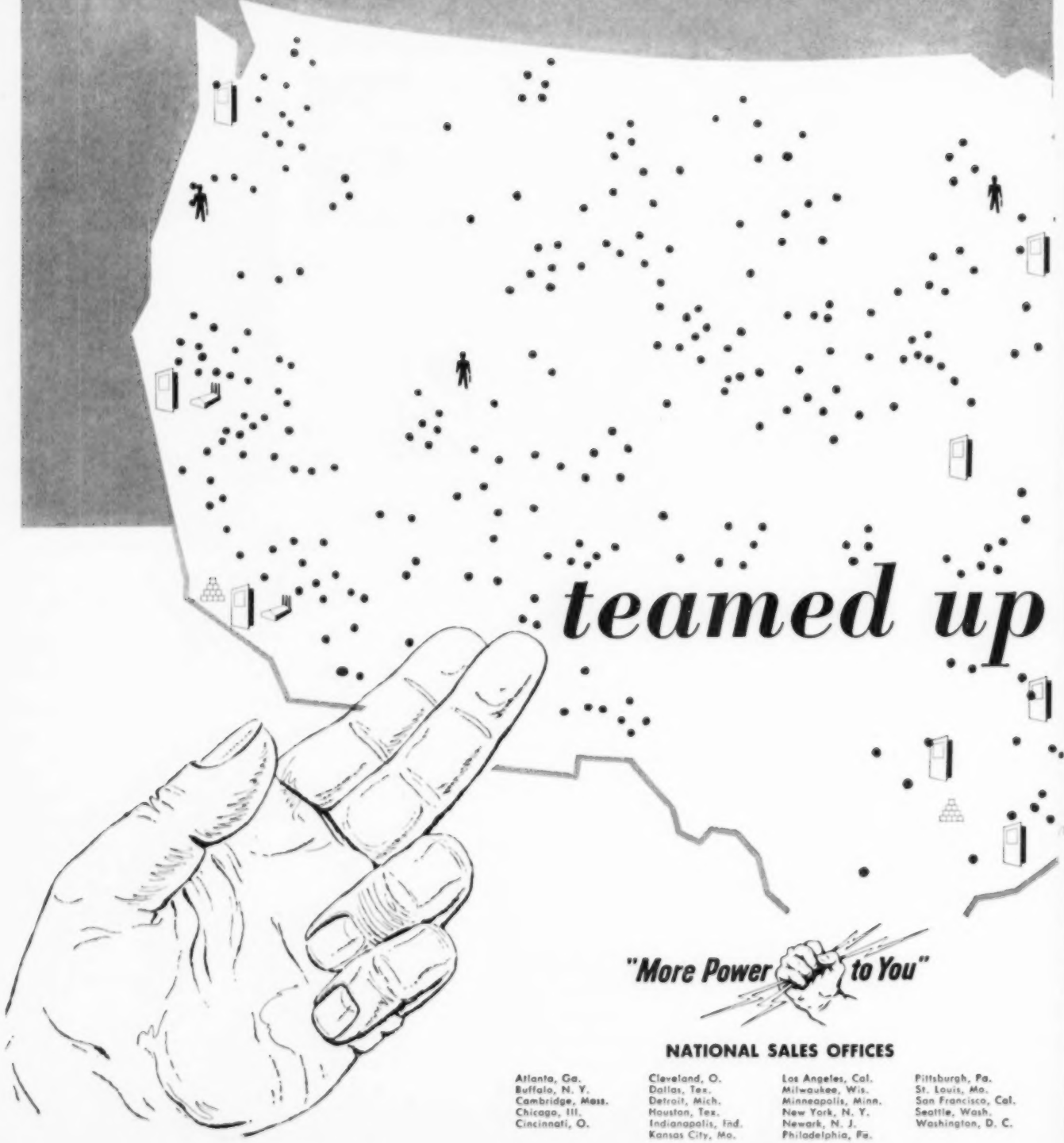

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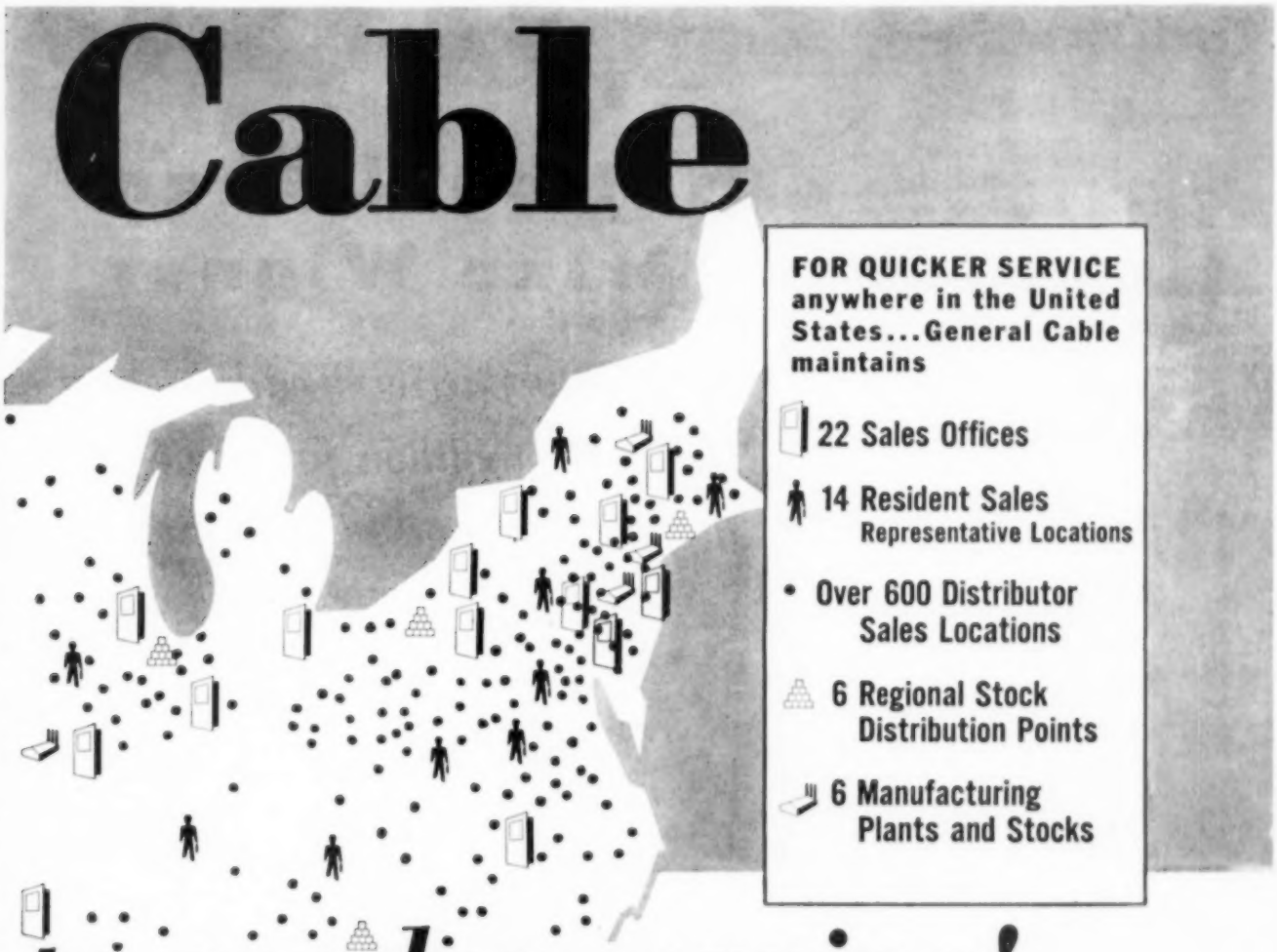

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Architects Eduardo Fernando Catalano (35) and **Horacio Caminos (39)** have much in common. Both graduated in architecture at the University of Buenos Aires. Both taught at the Architectural Association in London. And today both are Visiting Professors at North Carolina State College, Raleigh, N. C.

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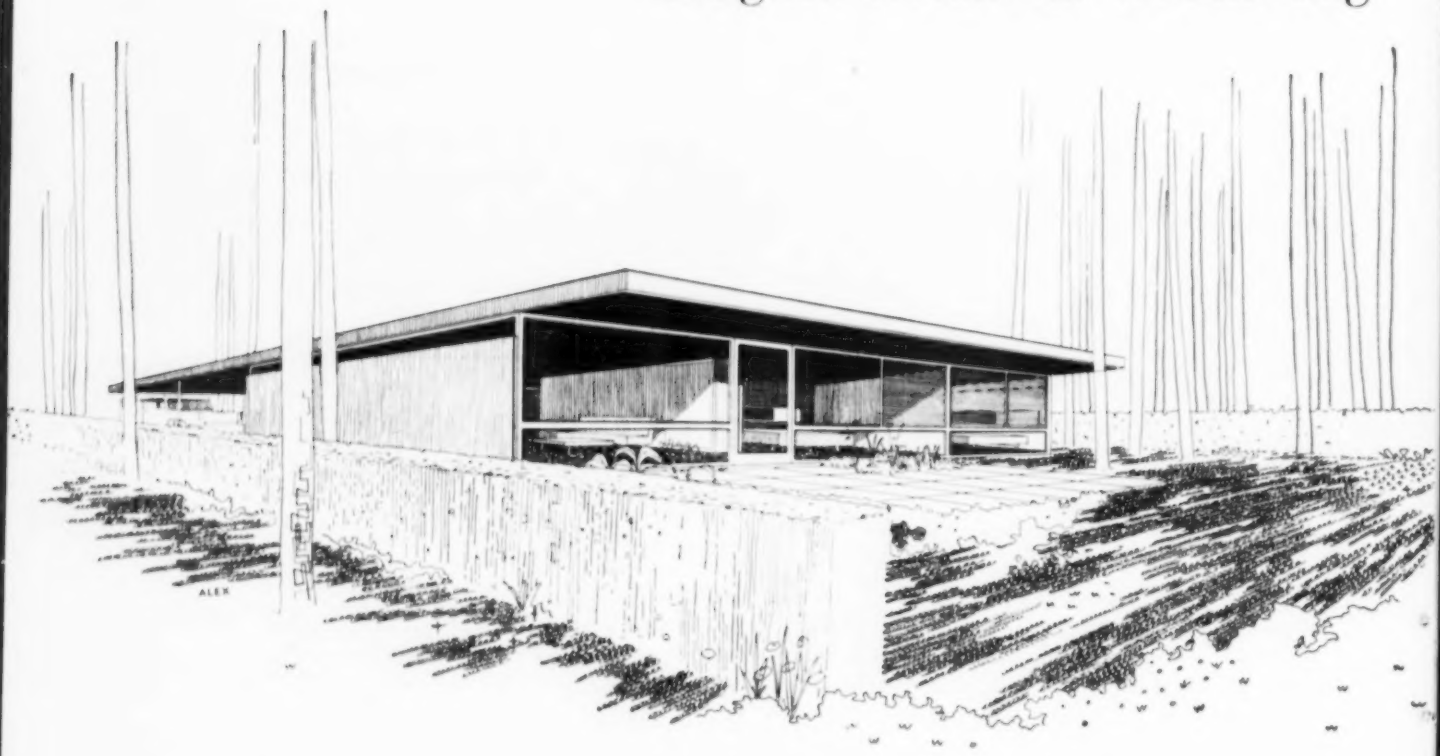
National Grand Prize Winner

in $27,800 Carrier Weathermaker Home Competition for homes designed around air conditioning



- It couldn't be built—without air conditioning! Yet air conditioning has made it a remarkably economical house to construct.
- A compact service core groups Weathermaker Air Conditioner with water heater, kitchen and bathroom. Minimum wiring, piping, ducts.
- Solid east and west walls provide privacy, space for furniture—and reduce cost of cooling, heating and construction.
- Large areas of fixed glass, north and south, produce a feeling of space and integration with the outdoors.
- Overhang shades windows in summer, allows for supplementary solar heating in winter and thus reduces both heating and cooling costs.
- Other savings include cost of: attic fan, louvers or movable sash, porch, window screens. Other benefits include: more usable space, ease of orientation, greater comfort.

These Architects were Regional Prize Winners

$2,000 Regional Grand Prize Winners

Class 1

(East & N.E.)
RICHARD J. DIMIT, Cambridge, Mass.
(South & S.W.)
LARRY MALLARD & JAMES L. BENNETT
Greensboro, N. C.
(Central & N.W.)
JOSEPH BURNETT, Chicago, Ill.

Class 2

(East & N.E.)
ABRAHAM W. GELLER & WILLIAM COX
New York City
(South & S.W.)
A. L. AYDELOTT, Memphis, Tenn.
(Central & N.W.)
TOM BEAR, St. Louis, Mo.

$750 Regional First Prize Winners

Class 1, Pitched Roof

(East & N.E.)
ROBERT GEDDES & GEORGE W. QUALLS
Philadelphia, Pa.
(South & S.W.)
GEORGE C. SCHREITER & ROBERT B. MARQUIS
San Francisco & Sausalito, Calif.
(Central & N.W.)
ROYAL A. McCLURE, Spokane, Wash.

Class 1, Flat Roof

(East & N.E.)
RONALD GOURLEY, Cambridge, Mass.
(South & S.W.)
WILLIAM PAYNTER, Bakersfield, Calif.
(Central & N.W.)
JOHN D. SHAWN, S/Sgt., AF18269331, Offutt Air Force Base, Omaha, Neb.

Class 2, Pitched Roof

(East & N.E.)
WILLIAM COX & A. W. GELLER, New York City
(South & S.W.)
ROBERT C. WILKANOWSKI, Raleigh, N. C.
(Central & N.W.)
R. J. RAFFERTY & G. E. RAFERTY
St. Paul, Minn.

Class 2, Flat Roof

(East & N.E.)
SMITH, KEYES, SATTERLEE & LETHBRIDGE
Washington, D. C.
(South & S.W.)
FRED DINGER & FRANK GOLDBERG
Los Angeles, Calif.
(Central & N.W.)
ASTRA ZARINA & DOUGLAS HANER
Seattle, Wash.

$150 Regional Second Prize Winners

Class 1, Pitched Roof

(East & N.E.)
CARLETON R. RICHMOND, Jr., & F. FREDERICK BRUCK, Cambridge, Mass.
(South & S.W.)
JOHN G. RAUMA, Berkeley, Calif.
(Central & N.W.)
ROURKE J. HAAS, Jr., Roseville, Mich.

Class 1, Flat Roof

(East & N.E.)
JOHN MICHAEL GODUSCIK, State College, Pa.
(South & S.W.)
MACON S. SMITH, Raleigh, N. C.
(Central & N.W.)
DONALD R. ERICSON, Yakima, Wash.

Class 2, Pitched Roof

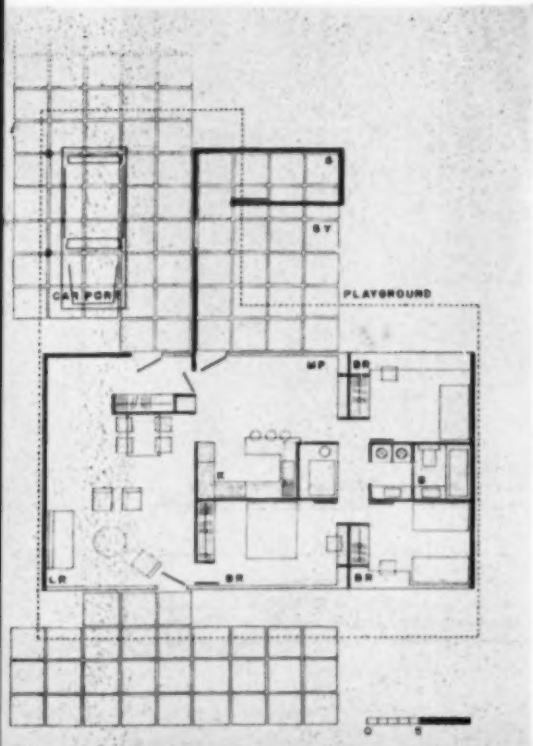
(East & N.E.)
JOHN MURPHY, North Bergen, N. J.
(South & S.W.)
HARVEY GENE STRONG, Atlanta, Georgia
(Central & N.W.)
DONALD H. PANUSHKA, Birmingham, Mich.

Class 2, Flat Roof

(East & N.E.)
ARTHUR DESALVO, Jr., Rowayton, Conn.
(South & S.W.)
ROBERT N. WALSH & MARK P. LOWREY
New Orleans, La.
(Central & N.W.)
ROBERT L. BLISS & ANNA C. BLISS
Minneapolis, Minn.

BLUE RIBBON JURY WHICH REVIEWED 861 ENTRIES

Left to right: Architect Pietro Belluschi – Dean of MIT's School of Architecture and Planning; Architect Richard J. Neutra – Vienna born, internationally known Californian; Housewife Lillian M. Gilbreth – mother of twelve, heroine of best-seller, "Cheaper by the Dozen"; Builder Representative Leonard G. Haeger – Director of Research, NAHB; Architect Edgar I. Williams – dean of New York architects.



Carrier comments

The results of this competition clearly indicate that the concept of a home designed around Carrier Weathermaker air conditioning has given thousands of architects a challenging new field for their imagination.

Since the subject is so new, the designs submitted should in all fairness be considered more in the light of "approaches to the problem"—rather than as answers to the air conditioned home of the future.

Carrier congratulates the award-winning architects and extends its thanks and appreciation to every entrant, as well as to the distinguished members of the jury whose identities are revealed here for the first time.

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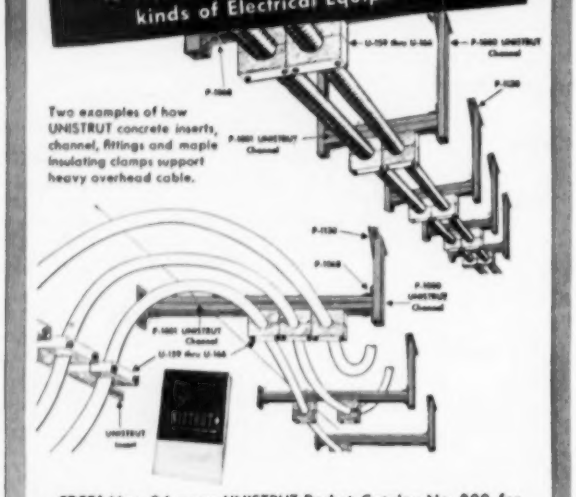

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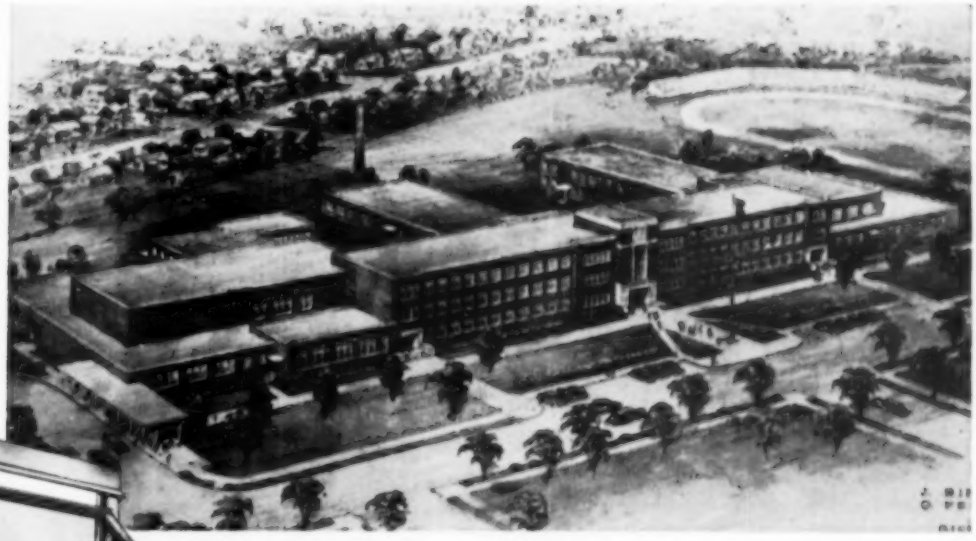

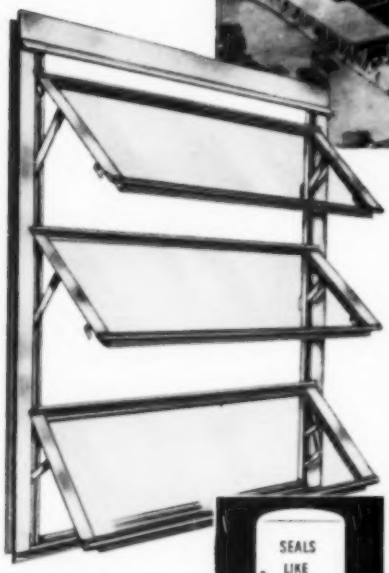

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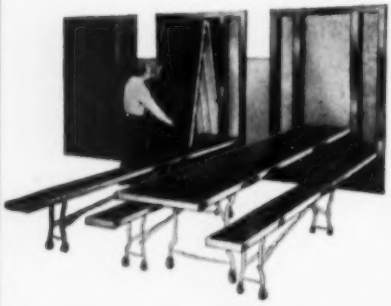

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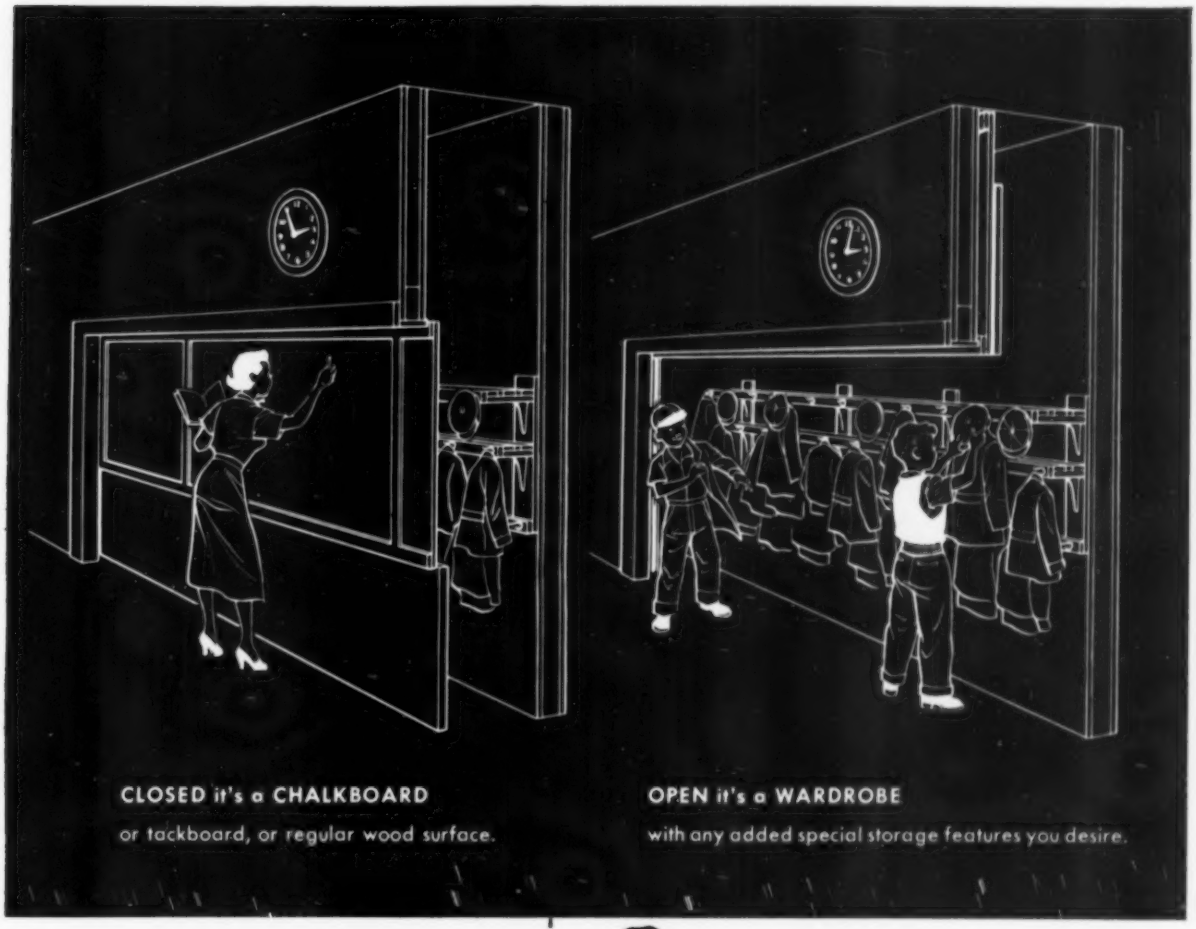

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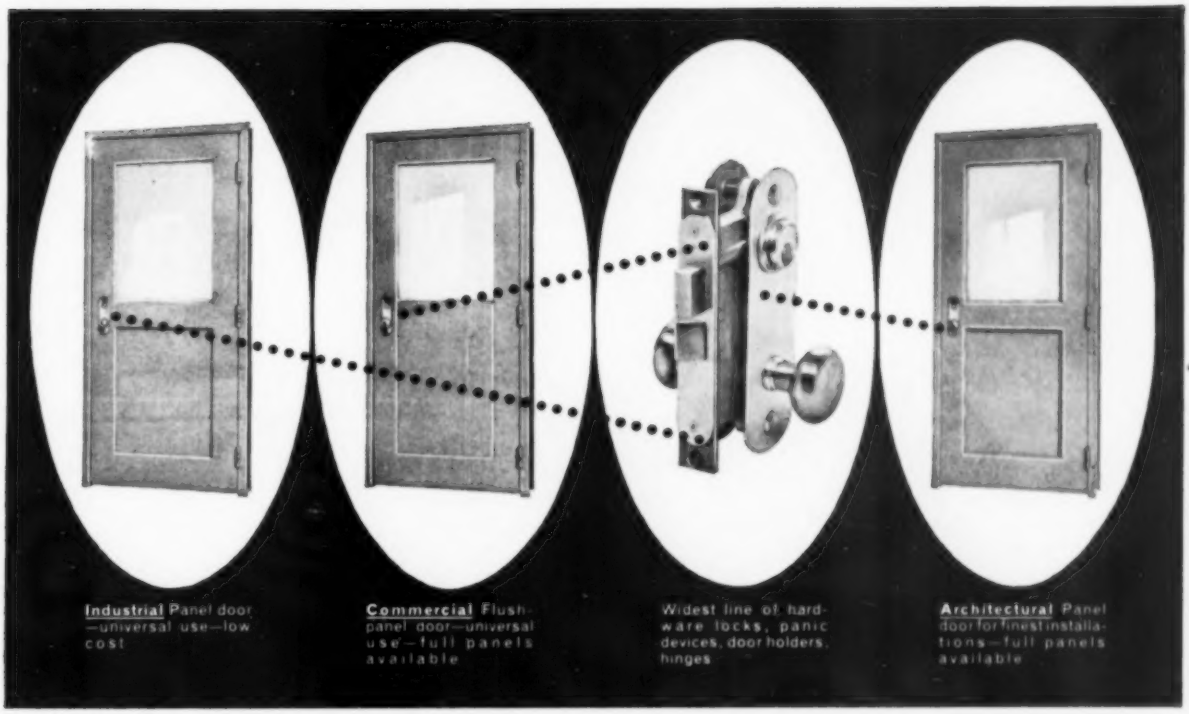
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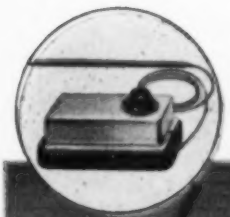

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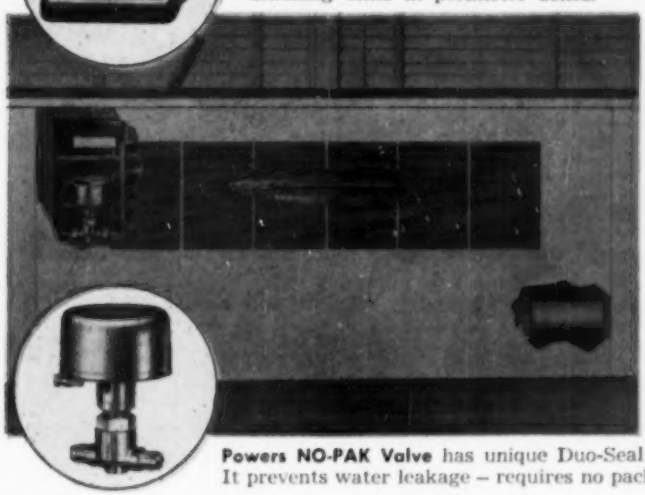

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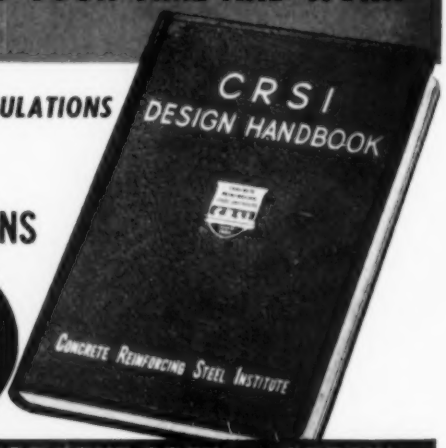

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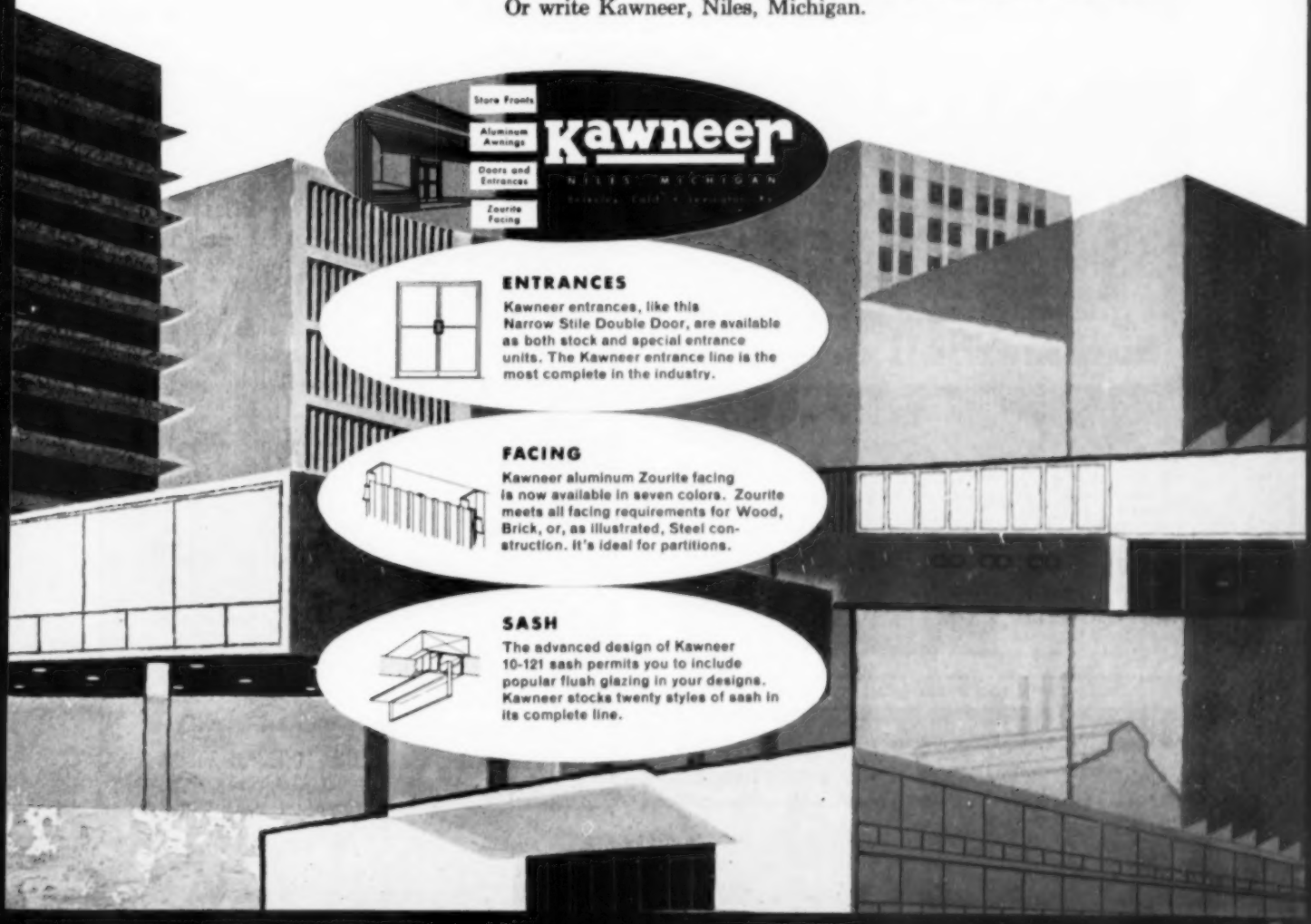
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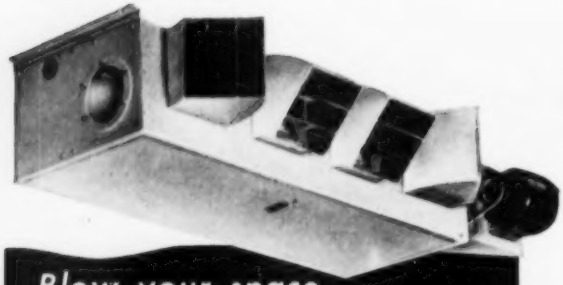

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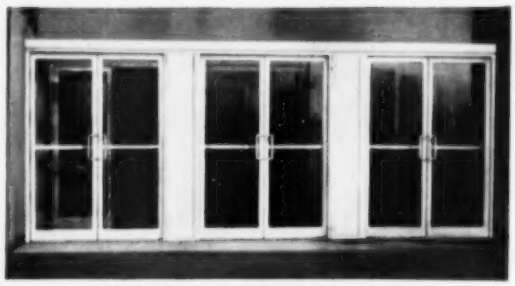

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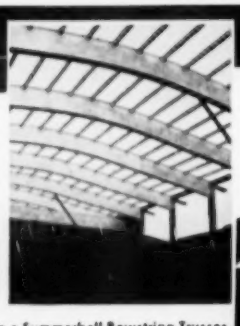

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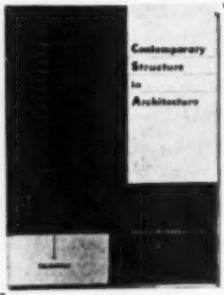

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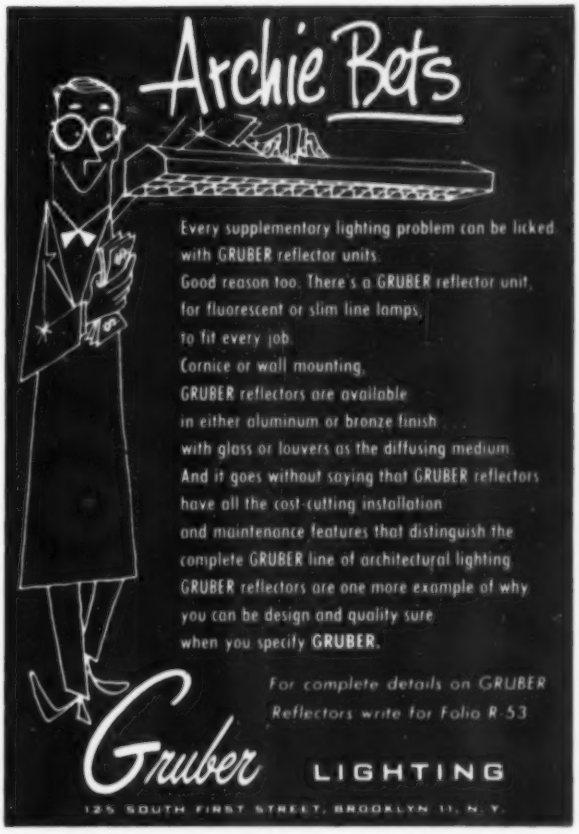
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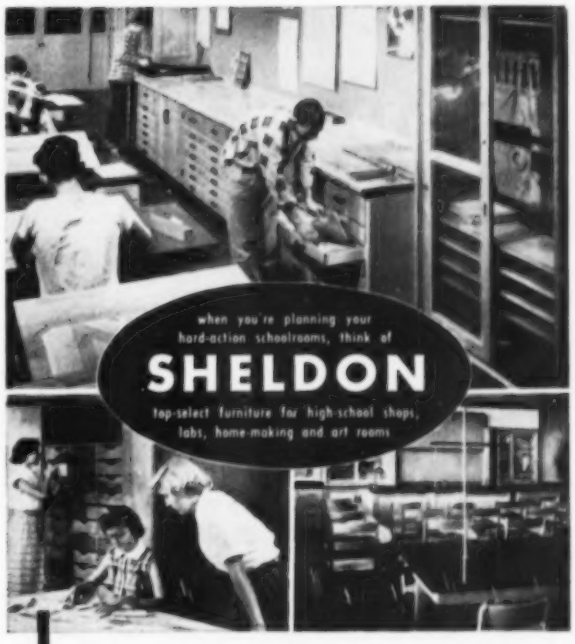
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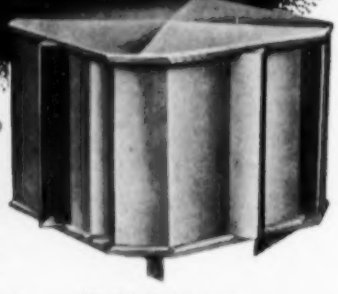

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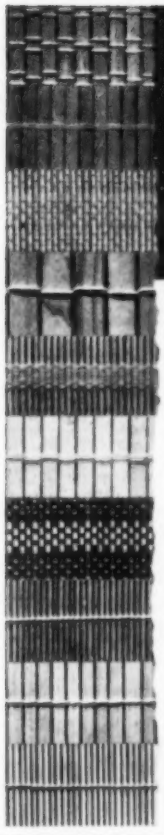

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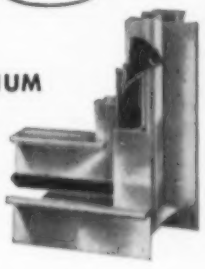

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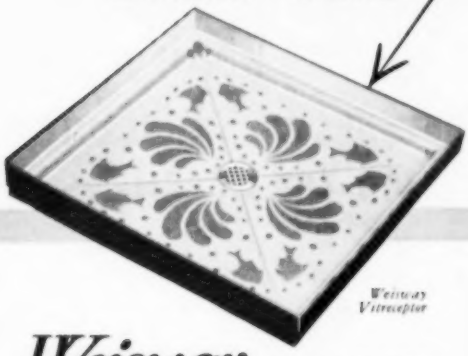

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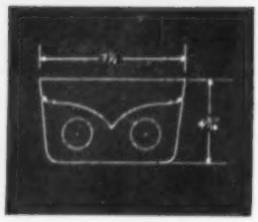

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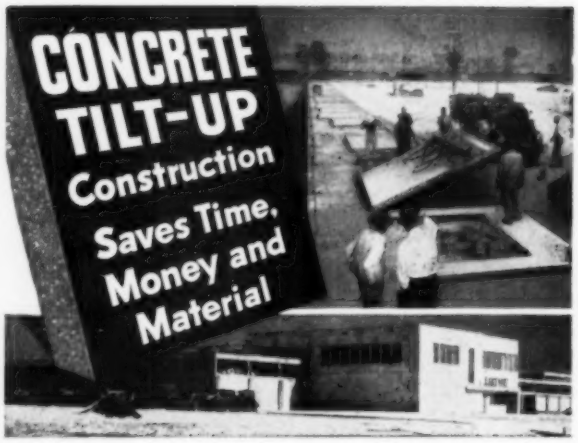

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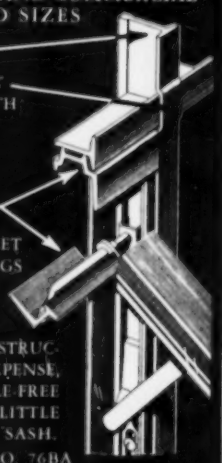
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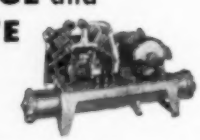

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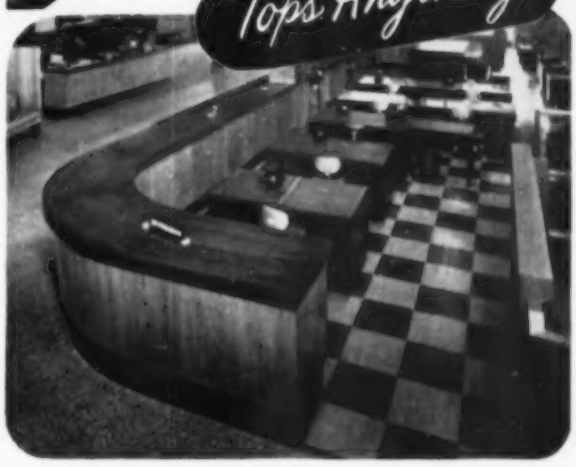

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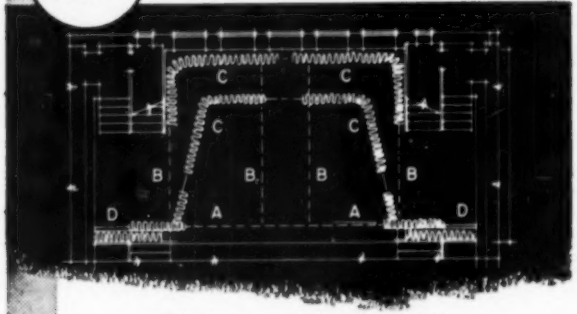

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P.S.

Last week I was in Miami, attending the Southeastern regional A.I.A. convention, and assisting in a two-day seminar on the design of hotels, motels, and apartments. It was a good meeting: Ed Stone, Julian Berla, and Geoffrey Baker, along with several hotel management people, were able to develop an interesting and possibly fruitful discussion of this group of building types ranged around the "hospitality business." It was interesting that after several days of planning discussion and technical considerations, the question of esthetics came in, introduced actually by a client-group representative. We had all been carefully avoiding any reference to the strip of extrovert hotel designs along Miami Beach, but a Miami Beach hotel owner finally demanded the floor. He explained that he was somewhat interested in questions of room sizes, balconies or not, air conditioning vs. natural ventilation, comparison of the usefulness of motels and in-city hotels, etc., but he wanted to point out that when he hired an architect to design a hotel for him, he wanted it to be the most conspicuous building on the street, to outdo all its neighbors in attracting attention, and stopping the passerby.

I was constrained to remark that in some areas the thing that would shock and startle and stop the passer-by would be a simple well-designed building. But young Bob Little, Jr. topped me after the meeting. He remarked that on Collins Avenue the only architecture that would stop traffic now would be a building constructed in the middle of the street.

I came back to New York to take part in another discussion—one run by the Citizens' Housing and Planning Council, on the subject, "Need Large-Scale Housing be Monotonous?" The answer was "no," if we could get away from some of the restrictive standards, directives, and fixed concepts of programming that tie the public agencies and inhibit the private clients in this field.

So in one week I had to jump from the problem of how to make hotels more restrained in design—to the question of getting less restraint in housing structures.

•

Several letters on subjects which may be of general interest have piled up while I have been gadding about. One reinforces my comments that modern art might have tough sledding in Federal projects, with Representative Dondero (R., Mich.) controlling the committee on Public Works in the House. Don Dirkse sends me copies of *Congressional Record* reprints quoting Dondero on art. After a preliminary blast —"I call the roll of infamy . . . dadaism, futurism, constructivism, suprematism, cubism, expressionism, surrealism, and abstractionism . . . all these are of foreign origin and truly should have no place in American art"—this leader of American culture attacks, with oblique references to communism, The Museum of Modern Art; the Fogg Art Museum at Harvard (it "has trained many of its effeminate elect to be directors of museums throughout our land"); Emily Genauer, *Herald Tribune* critic; Lewis Mumford; Leslie Cheek, Jr., and the Virginia Museum in Richmond; *Harper's* magazine, and so on and on. Oh, dear!

How can one work at the important phases of development in the arts when this sort of nonsense still gets public attention—and is printed at public expense?

•

Another correspondent with a better memory than I have for the back issues of the magazine, calls attention to the fact that *Pencil Points* first published the design idea for 3-D movie projection. Now that Cinerama and the other three-dimensional projection schemes are exciting the entire industry, it is interesting to recall that in September 1938, *Pencil Points* (predecessor to P/A) were published "idea sketches" by Voorhees, Gmelin & Walker (predecessor to Voorhees, Walker, Foley & Smith) for the 1939 New York World's Fair, including an idea for "a talkie montage." Ralph Walker's notes at that time describe what they had in mind: "A great exedra, a monitor with a battery of moving picture projectors, at least two wide-angle or on eccentric mounts . . ." A rough sketch which the magazine published showed the concept—startingly similar to Cinerama's finally developed, wide, arc-shaped screen.

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Two unusual types of contracts for architectural services have come to my attention recently. One is a fairly conventional contract between owner and architect, except that it carries the important provision that the owner agrees to pay a fee of —% of the construction cost: (1) $—— upon acceptance of this contract; (2) ——% of fee upon delivery of working drawings and specifications; (3) —— (remainder to be paid as agreed upon). The unusual aspect, of course, is the retainer, paid on signing of the contract, a provision which Bernie Tomson has been arguing for since he began writing for P/A, and one which more and more architects are finding advisable —— and possible.

The other is a much more radical concept, for a practice based on an extension of the architects' services to include a large part of the conventional builder's function. A group in Ohio, called the "Builders Collaborative," sets up the owner as the contractor, in a legal sense; and as part of the architectural services performs all functions which make it possible for the owner to function as general contractor. Their contract binds them to: assist the owner-contractor in preparation of cost data, letting of subcontracts, procurement of all materials and labor necessary to the owner-contractor in carrying out the intent of the drawings and specifications, making all necessary reports, keeping of records and responsibility for all labor insurance not covered by subcontractors; acquiring of all insurances necessary to protect the owner from his liability as owner *and* contractor, and general counsel and advice.

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There is a distressing falling off of standards in the work published by the consumer magazines. Somehow, I feel that the professions of design must be to blame for this, although I must admit that I don't know what more could be expected of them than the protests at outlandish performances that have occurred. I have just been looking at pictures of *House & Garden's* current House of Ideas: a "newsmaking traditional house" designed by Walter K. Durham of Philadelphia. It is "Regency inspired" inside and out, and "forecasts trend-setting features in present-day decoration." A few years ago I remember *H & G's* House of Ideas as a very handsome contemporary job by John Callender and his associates. With some pride I recall that Katherine Morrow Ford was then architectural editor of that magazine. Now Jimmy Fitch and Mary M. Roche are both leaving *House Beautiful;* the violent chauvinistic attitude of *H.B.'s* present stand was discussed in this column two months ago. It's sad! Perhaps the era of sound, well-trained architectural editors in these important spots is past. Just temporarily, let us hope.

Incidentally, thanks to the many of you who have written, called, and spoken to me about that open letter to Miss Gordon in May. It may interest you to know that of the literally hundreds of responses I have had, only one was favorable to the Gordon point of view; that was from Karl Kamrath (see VIEWS). I see that Frank Lloyd Wright and Bruce Goff also agree that there is a nasty conspiracy underway—which must be stamped out.

Thomas H. Creighton

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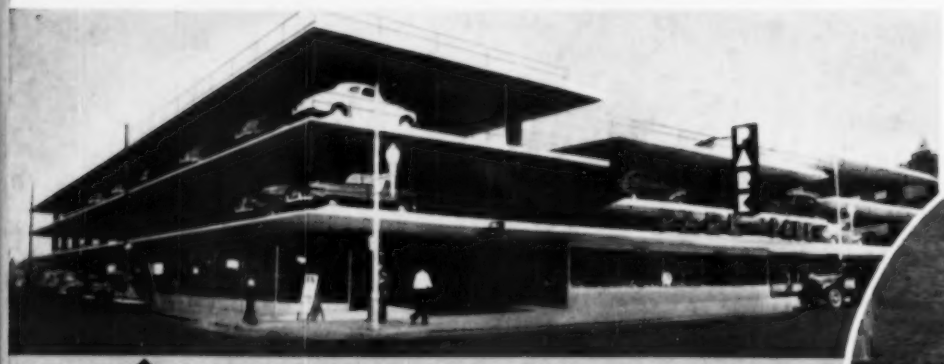
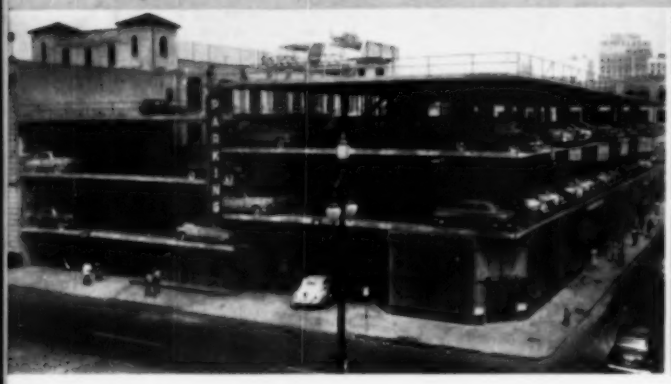


Miami Parking Garage, Miami, Florida. Archt.—Robert Law Weed; Contr.—Gust K. Newberg—both of Miami, Fla. Pozzolith Ready-Mixed Concrete supplied by Maule Industries, Miami Beach, Fla.

Fort Worth National Bank Garage, Fort Worth, Texas. Archt.—Preston M. Geren; Contr.—Thos. S. Byrne, Inc.; Pozzolith Ready-Mixed Concrete supplied by Fort Worth Sand & Gravel Co.—all of Fort Worth, Tex.

Blaise Parking Garage, New Orleans, La. Archt.—Diboll-Kessels & Assoc.; Contr.—Gervais F. Favrot Co.; Pozzolith Ready-Mixed Concrete supplied by Jahncke Service, Inc.—all of New Orleans, La.



Eglin's Garage, Philadelphia, Pa. Archt.—W. F. Sillman; Engr.—J. E. Good; Contr.—John A. Robbins Co., Inc., Pozzolith Ready-Mixed Concrete supplied by Warner Co.—all of Philadelphia, Pa.

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